A Platform for a Pragmatic Metatheoretic Model for Information Systems Practice and Research

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http://rogerclarke.com/ID/PMM {.html, .pdf}
Motivation

- Support practice-relevant IS research
- Establish a sound basis for non-mainstream research
- Address important challenges in the IS profession and discipline esp. digital identity, data quality
- Achieve appropriate representation of natural objects, artefacts and animals, and particularly humans
- Achieve appropriate association of data with them
- Handle human sensitivities
- Pre-counter reviewers seeking an easy way to dismiss papers whose directions make them uncomfortable
A Platform for a **Pragmatic** Metatheoretic Model for Information Systems Practice and Research

- **Pure Research**
  I want to discover and understand what is

- **Applied Research**
  I have a research tool, so I’ll use it

- **Instrumentalist Research**
  There’s a problem, so I’ll try to solve it

- ‘**Pragmatism’**
  - In Philosophy, concerned with understanding and action, not merely describing and representing
  - In practice, approximates and articulates a layman's 'common sense' interpretation
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‘**Metatheoretic assumptions and commitments’**

- The most relevant elements of Metatheory:
  - Ontology – the study of existence
  - Epistemology – the study of knowledge
  - Axiology – the study of value
  - Methodology – the study of processes
  - Semantics, Linguistics, ...

- “Our ... methodology must be suitable for the environment which we study (ontology) and for how knowledge is to be obtained in that environment (epistemology), and our logic must conform to how our metatheoretic commitments indicate that arguments are to be made"
Key Aspects of Ontology

• The study of existence or ‘being’
• Concerned with Phenomena
  {Matter, Things, Events, Properties, ... }
• ...

Materialism
Matter exists, independently of whether a human detects it.
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Cogito ergo est
Materialism
Matter exists, independently of whether a human detects it.

Cogito ergo est
I think it is, therefore it is
Materialism
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Cogito ergo est
I think it is, therefore it is

Idealism
Everything exists in the human mind. The ‘real world’ I think I see is only an idea. That idea may be shared, but not identically
Key Aspects of Ontology

• The study of existence or ‘being’
• Concerned with Phenomena
  {Matter, Things, Events, Properties, ...}
• The Bunge-Wand-Weber (BWW) ontological model
• The Hiedeggerian onto-epistemological model
• Bunge’s Systemist Ontological Model (BSO)
  From Things to Systems; Inter-relationships plus Holism
A Pragmatic Ontological Model

- **The Dualism postulate:**
  - There are material realities (the Real-World)
  - There is internal 'mind-stuff' (the spiritual, intellectual or Abstract-World)

- **Real-World Phenomena and Properties**
  The wavelength of electromagnetic radiation, hardness and brittleness of things, changes

- **Abstract-World Ideas**
  Numbers, colours, hardness, brittleness, time, lists of the intended functions of artefacts
Epistemological Aspects

- The study of knowledge and its sources
- ‘Empiricism’ – knowledge is from sensory experience
- ‘{Logical} Positivism’ – nothing is innate; if it can’t be observed and/or measured, it merits no consideration
- ‘Scientism’ – science is the only valid approach
- ‘Apriorism’ or ‘Rationalism’ – knowledge can be innate and/or derived from human reasoning
The Search for Truth Truce

- Blend sensory experience and reasoning
- Allow for varying criteria for ‘truth’, e.g.
  - Proof of truth
  - Belief of truth [?]
  - Reasonable presumption of truth (evidence)
  - Working assumption of truth (postulate)
- Recognise different forms of knowledge
  ....
Recognise Different Forms of Knowledge

• ‘Codified Knowledge’ (Empiricist / Positivist)
  Expressed
  In text, defined dialect, flowcharts, formulae, blueprints, ...
  Disembodied, but communicable among people
  Capable of delivering a coherent body of information
  to individuals in particular contexts

• ‘Tacit Knowledge’ (A-Priorist / Rationalist)
  Exists in a particular person
  Informal and intangible
  Not readily communicable
Recognise Different Forms of Knowledge

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Categories of Tacit Knowledge

- **Acquaintance Knowledge**
  “Having sensory experience of”
  Concerned with objects

- **Procedural Knowledge**
  “Knowing how to”
  Concerned with skills

- **Propositional Knowledge**
  “Knowing that”
  Concerned with assertions
A Pragmatic Epistemological Model

- “An open attitude toward any kind of epistemological foundation that might work”
- “Epistemological and methodological diversity”
- “Disciplined methodological pluralism”

- Empiricism, if non-human entities predominate
  Guidance systems for aircraft and spacecraft
  Heavily-automated production control /inventory systems

- Rationalism, in systems with human involvement or significant impact on humans
Axiological Aspects

- The study of value(s)
- A ‘Virtue’ dimension of ‘good / bad’ (Loose even mystical criteria?)
- A ‘Deontic’ approach, related to duty or obligation on a 'mandated / optional / forbidden' dimension
- A ‘Utilitarian’ or ‘Consequentialism’ approach based on the impacts or outcomes, which depends of clarity of purpose (Teleology)
- Positivism assumes a common denominator
- Antipositivism rejects that as fantasy
Axiology in IS

• Dominance of a narrow interpretation, based on **Economic** and **Financial** factors – 'shareholder value’

• **Social** and **Environmental** factors?
  Triple-bottom-line reporting / ‘people, planet and profits’
  Corporate Social Responsibility (CSR)

• **Human** values?
  • Hedonism, Conservation, Openness to Change, Self-Enhancement, Self-Transcendence
  • Conservation: Conformity / Obedience, Tradition / Humility / Devoutness, Security / Social Order

• Multiview, Soft Systems Methodology, Participatory Systems Design, Value-Sensitive Design
Researcher Perspective Theory

- c. 90% of papers on research of relevance to IS practice are Single-Perspective, i.e. all other stakeholders’ interests are constraints on the primary stakeholder
- c. 90% of those papers privilege the System Sponsor
- Far less Single-Perspective other-than-System-Sponsor
- Little Dual-Perspective Research (cf. win-win!?)
- Very little Multi-Perspective Research (even in supply chain and network studies!?)
- IS Researchers score a Fail on axiological insight
A Pragmatic Axiological Model

- “An open attitude toward any kind of axiological foundation that might work”
- “Axiological diversity”
- “Disciplined axiological pluralism”

- Single-Perspective
  - System-Sponsor 90%
  - Other Stakeholder 5%
- Dual-Perspective 3%
- Multi-Perspective 2%
Part of the Framework for Application of the Pragmatic Model
An Application to (Id)Entity Management
Agenda

• Motivation
• Why Instrumentalist and Pragmatic?
• ‘Metatheoretic assumptions and commitments’
• Ontological Aspects
• Epistemological Aspects
• Axiological Aspects
• Application
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