

# A typology of Behavioural OR studies

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# Theoretical background (1)

- Distinction between seeing *reality* as consisting of *things* or *processes* is deeply embedded in the organisation studies literature (van de Ven & Poole 2005).
- This distinction is also evident in the OR literature, particularly regarding the notion of '*intervention*'
  - a collection of entities, e.g. individuals/groups, problems, OR technology (a *noun*).
  - a process involving complex dynamic interactions between these entities (a *verb*).

# Theoretical background (2)

- Studying behavioural aspects of OR interventions:
  - Observing **differences** in individuals/groups/processes on selected dimensions: **Variance** approach.
    - Quantitative causal analyses
    - Dependent variables eg mental models, consensus
    - Independent variables eg models/modelling, novice/experts
  - Observing **sequence of events** on how development and change in individuals/groups/processes unfold: **Interaction** approach.
    - Quantitative and qualitative process analyses
    - Processes include decision development, conflict management, socio-material interactions

# A typology of Behavioural OR studies

(inspired by van de Ven & Poole 2005)

		Nature of OR intervention	
		A collection of individuals/groups	A process
Approach to studying behavioural dimensions in OR interventions	Variance approach	<b>Causal studies:</b> focus on causal analyses of independent variables that explain change in individuals/groups.	<b>Complexity studies:</b> focus on uncovering dynamic patterns in change processes using mathematical modelling and agent-based simulation modelling.
	Interaction approach	<b>Sequence studies:</b> focus on narrating the sequence of events/stages/cycles of change in the development of individuals/groups.	<b>Sociomaterial studies:</b> focus on narrating the interplay between the individuals/groups and OR technology as they become interwoven in practice.

# Causal studies

- Examine questions such as:
  - What are the causes or correlates of change in individuals/groups within OR interventions?
- What ‘changes’ as a result of OR intervention is assumed to take place rapidly on a human scale.
- Well suited for testing hypotheses.
- Examples: Hogdkinson et al (1999), Rouwette (2011), Hämmäläinen et al (2013).

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# Sequence studies

- Examine questions such as:
  - How changes in individuals/groups came about within an OR intervention?
- ‘Change’ here is developmental and consists of a succession of events/stages/cycles/states (Poole et al 2000).
- Well suited for developing typologies of OR-supported processes.
- Examples: Willemain (1994, 1995); Willemain & Powell (2006); Tako & Robinson (2010); Franco & Rouwette (2011).

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# Sociomaterial studies

- Examine questions such as:
  - How do OR-supported processes unfold over time?
- A key assumption is that ‘human agency’ of individuals/groups and ‘material agency’ of OR technology become entangled in practice and so difficult to separate analytically.
- Examples: White (2009); Ormerod (2013); Paroutis et al (2014)

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# Complexity studies

- Examine questions such as:
  - What causes certain patterns of change in individuals/groups within an OR intervention?
- Based on quantitative analyses of an event series (e.g. Markov analysis, agent-based simulation) to uncover and test for the series' properties and mechanisms that drive process.
- Examples: (mostly conceptual): DeSanctis & Poole (1994); Dooley & van de Ven (1999); Arrow et al (2000); Hammer et al (2011)

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# Implications

- The four study types in the typology should be seen as being complementary rather than as competing or opposite.
  - Each study type seeks to answer different questions
  - Each study type provides a different, but partial, understanding of OR interventions
- There is no one ‘right’ way to do Behavioral OR:
  - coordinating the pluralistic insights from the four study types can provide a richer understanding of OR intervention than any one study can provides by itself.

# Thank you!

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