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WHAT IS BEHAVIOURAL OR?

Behavioural OR: Orientation

- Commitment to *empirically* examine what people do:
 - within a system or problem domain;
 - when engaged in OR–supported processes
- Two streams of work:
 - Modelling behaviour.
 - Evaluating how behaviour affects, or is affected by OR–supported processes.

Drawing from practice theories

- Practice theories (e.g. Whittington 2003, 2006, 2011) address three questions relevant to BOR:
 - **What** guides behaviour?
 - **Whose** behaviour counts?
 - **How** behaviour is enacted?
- Answers to these questions can provide explanations of impacts achieved (or not) from the application of OR.

What guides behaviour: OR *methods*

- OR intervention approaches, techniques and tools.

Illustration (1)

- Skraba et al.'s (SDR 2003) study of the effect of feedback information on a SD-supported group process:
- Task was to determine best strategy.
- The use of group feedback information, in addition to using the SD model:

 - positively influenced convergence of the decision process;
 - contributed to higher (individual) performance.

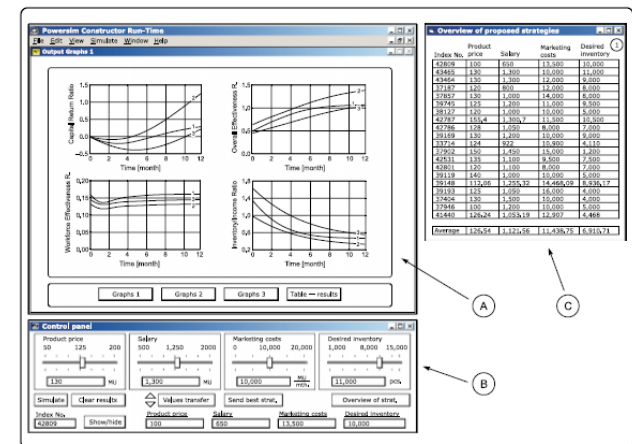
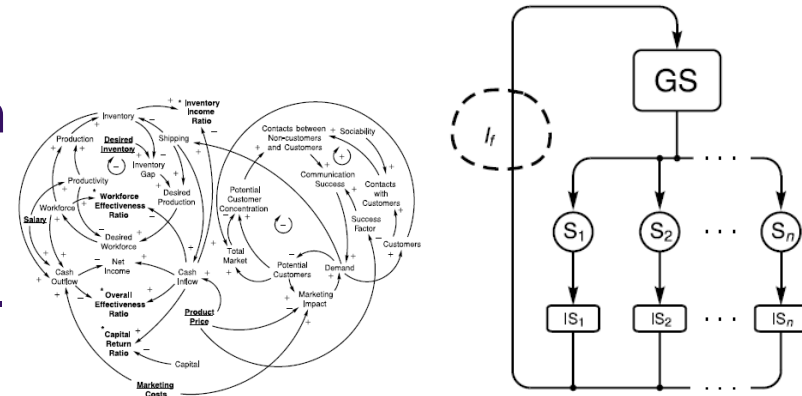


Illustration (2)

- Joldersma & Roelofs (EJOR 2004) quasi experimental study of the impact of OMT:
 - 2-day simulation task.
 - Control vs experimental groups comprised of Dutch managers.
 - Impact variables: differentiation, integration, participation, communication.
 - Little impact when high conflict about task or interests
 - More impact when modelling focused on information exchange.



What guides behaviour: OR *methods*

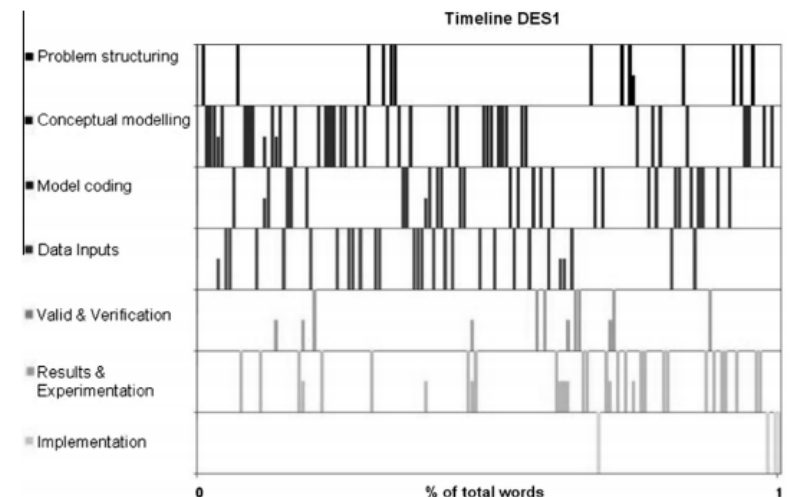
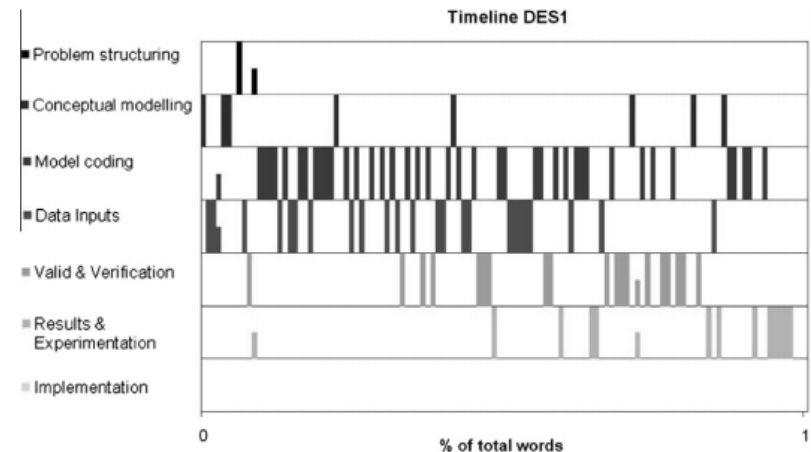
- OR intervention approaches, techniques and tools.
- Other ‘methods’ also included, e.g.:
 - routines/scripts;
 - communication strategies;
 - norms and procedures.

Whose behaviour counts: OR *actors*

- Individuals who, individually or as part of a team, design, implement or engage with OR-supported processes:
 - OR practitioners.

Illustration

- Tako & Robinson's (EJOR 2010) study of expert DES and SD modellers:
 - **Seven modelling stages** identified.
 - All modellers switch between stages, BUT...
 - **DES modellers** follow a more **linear progression**.
 - **SD modellers** focus more on **conceptual modelling**
 - **DES modellers** focus more on **model coding** and **V&V**.



Whose behaviour counts: OR *actors*

- Individuals who, individually or as part of a team, design, implement or engage with OR-supported processes:
 - OR practitioners.
 - OR clients, OR sponsors, OR users.
- Impact of actors' behaviour and methods are intertwined.

How behaviour is enacted: OR *praxis*

- What OR actually do with OR methods *in situ*.
- Streams of actual OR-supported activity happening at different organisational levels.
 - Most visible within specific ‘episodes’.

Illustration (1)

- Tavella & Franco's (GDN 2015) study of facilitated modelling processes:
 - **Generative model-supported conversations** (e.g. inviting, proposing, clarifying, building) lead to new or shared knowledge.
 - **Assertive model-supported conversations** (e.g. challenging, reiterating, undermining, deploying authority) lead to recycling existing knowledge.

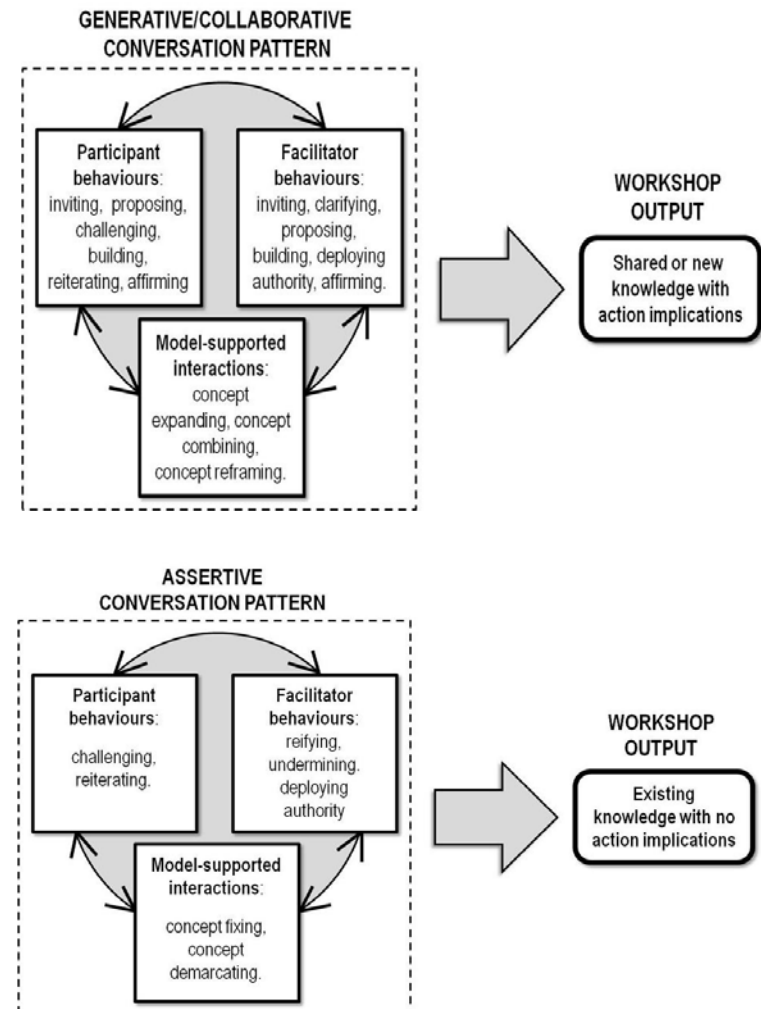
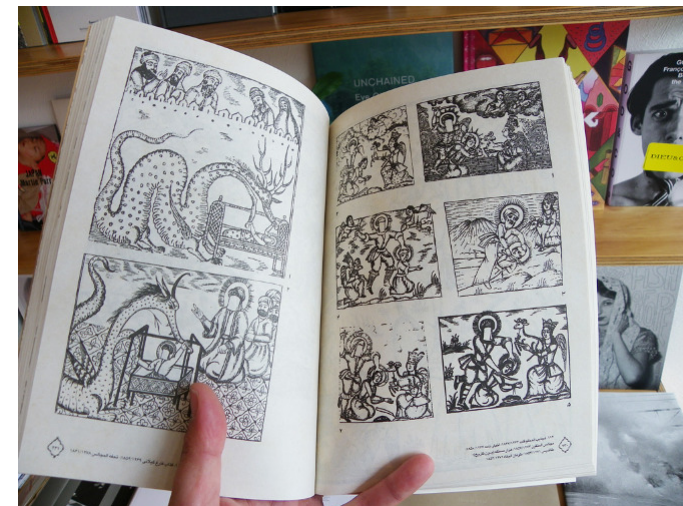


Illustration (2)

- Ormerod's (JORS 2013) study of an OR project with UK NCB during 1970s-1980s:
 - used the concept of 'mangle' (Pickering 1995) to examine intervention;
 - showed how complex intertwining of material and social factors affected the intervention's design, deployment and outcomes.



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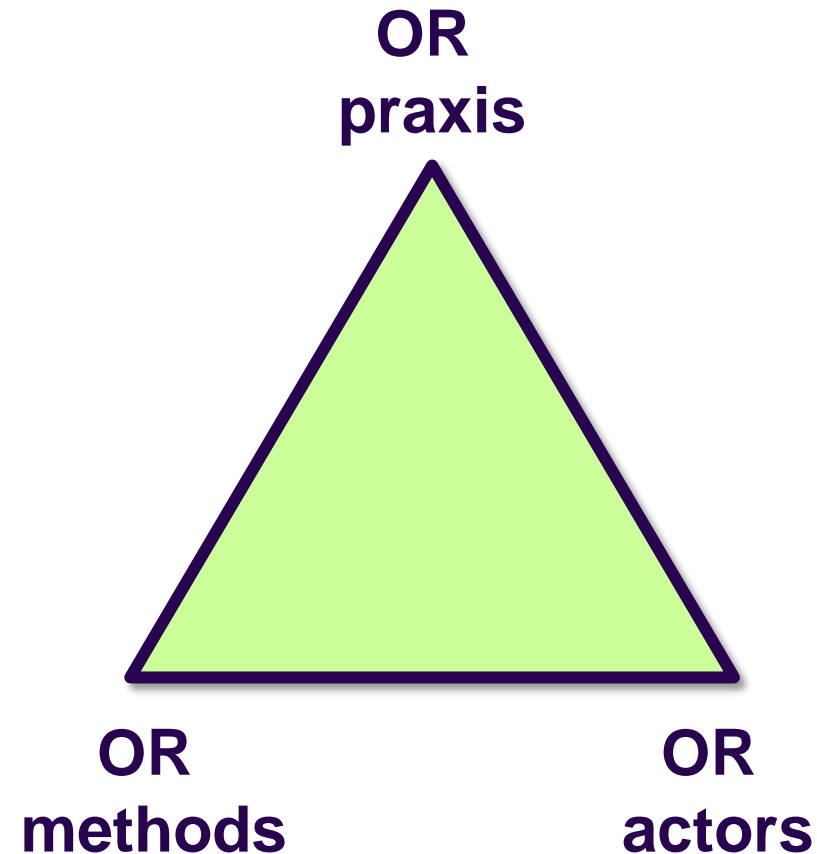


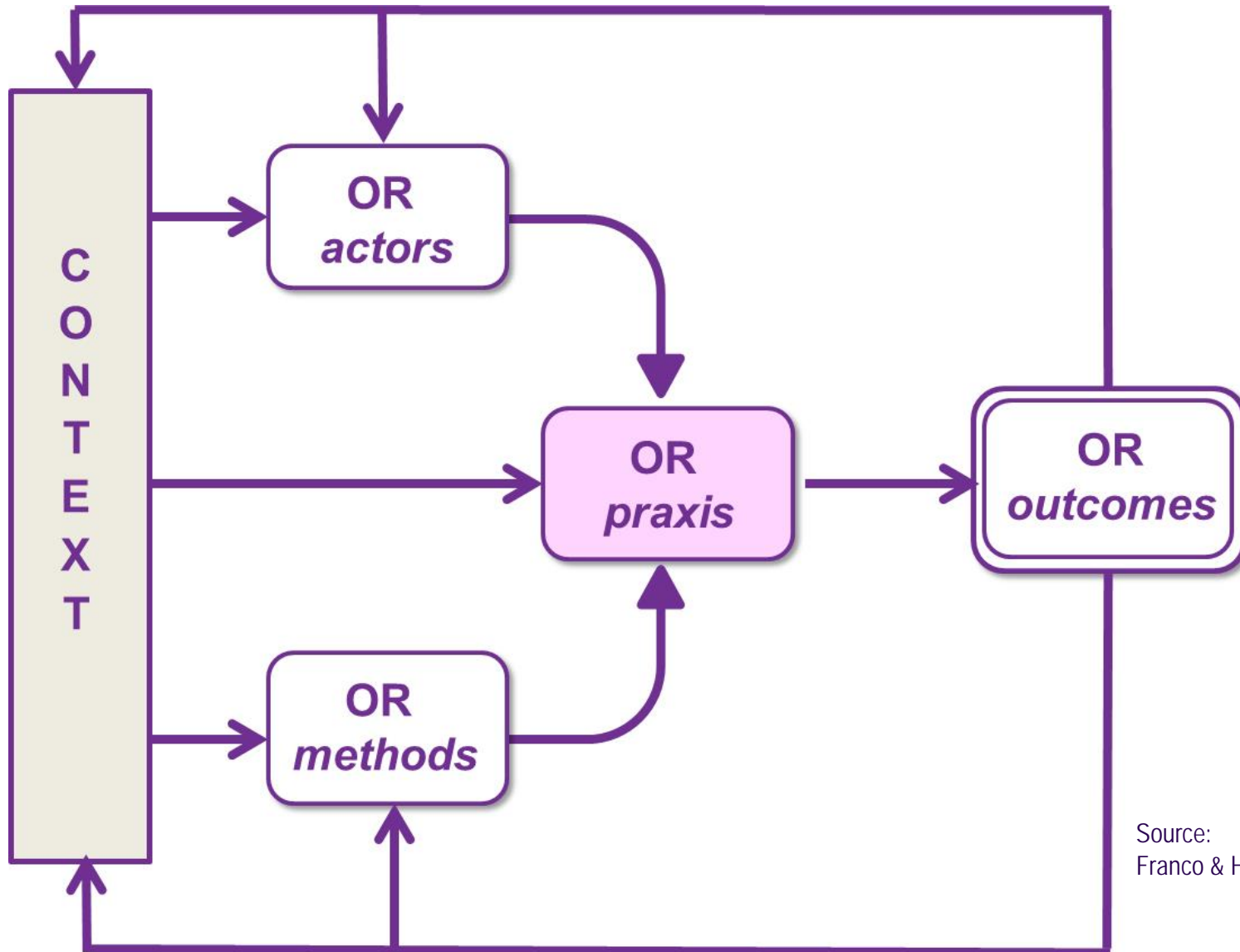
How behaviour is enacted: OR *praxis*

- What OR actually do with OR methods *in situ*.
- Streams of actual OR-supported activity happening at different organisational levels.
 - Most visible within specific ‘episodes’.
- Focus on praxis can highlight gap between ‘textbook’ OR and ‘actual’ OR on the ground.

The argument so far

- To achieve a holistic picture of the role and impact of behavioural issues in OR, we need to:
 - investigate a wide range of OR methods;
 - attend to who engages with them;
 - closely examine how they are actually used in practice.

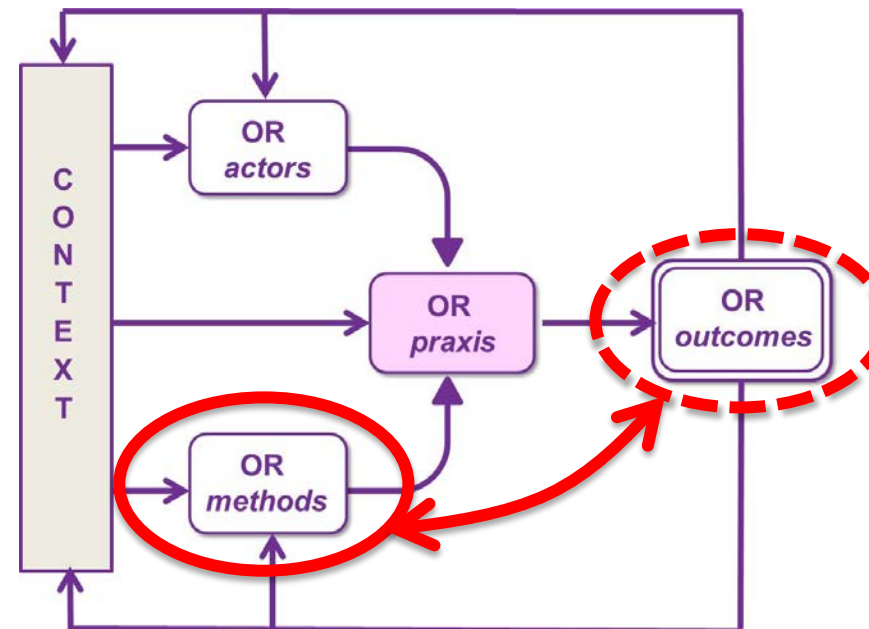




Source:
Franco & Hamalainen (2016)

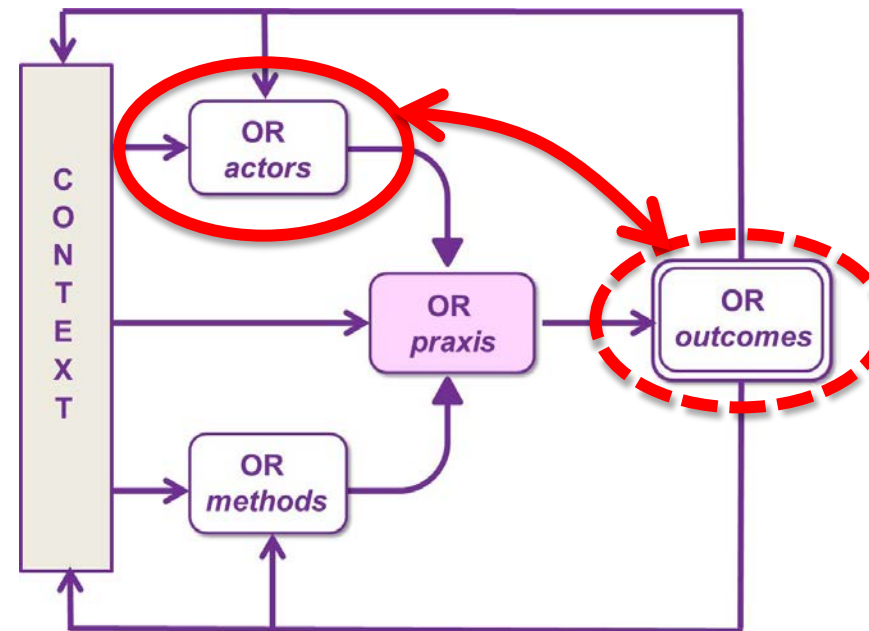
Focus on OR methods

- Behavioural-related outcomes of models/modelling:
 - Results from simulations.
 - Changes in cognition, attitudes or interactions.
- Behavioural-related impacts of data elicitation protocols.
 - De-biasing effects.
- Under-researched methods:
 - Routines/scripts.
 - Communication strategies.
 - Norms/procedures.
 - OR teaching methods



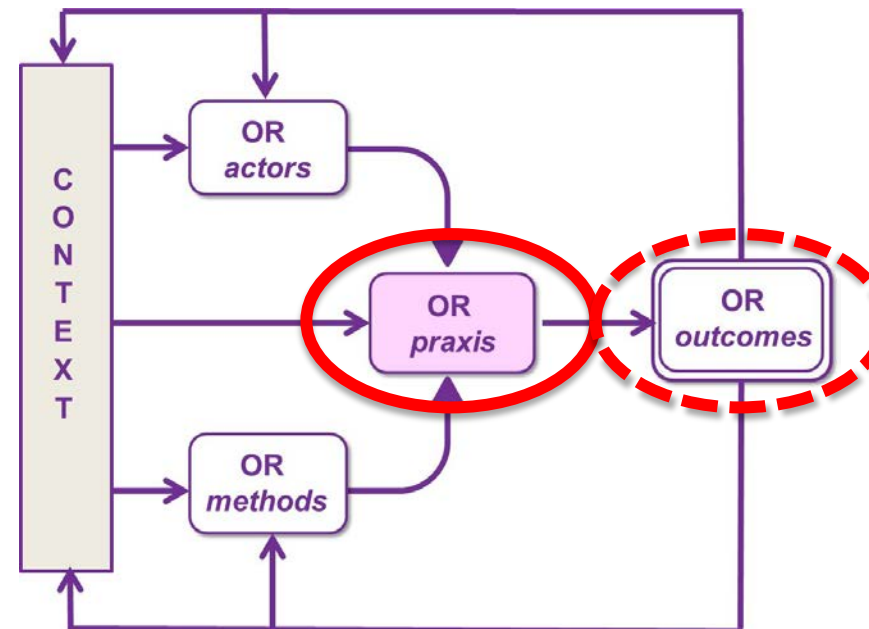
Focus on OR actors

- Expert/novice modellers and/or user studies doing simulation, forecasting, decision analysis, strategy.
- Same method can lead to different outcomes depending on actors' characteristics, e.g.:
 - Competences.
 - Cognitive style.
 - Consulting approach.
 - Status/authority.



Focus on OR praxis

- Pays attention to the *situated* nature OR method use.
- Still relatively underexplored, particularly in the field, with few exceptions.
- Observed deviations from expectations of method use may or may not imply bad OR praxis.



Methodological issues

- There is not one single way to conduct BOR studies.
- We can learn from how change has been studied in the social sciences and organisation studies (e.g. Poole and Van de Ven 2010):
 - Causal studies.
 - Sequence studies.
 - Sociomaterial studies.
 - Modelling studies.

| | Substantive ontology | Processual ontology |
|-------------------|----------------------|-----------------------|
| Variance approach | Causal studies | Modelling studies. |
| Process approach | Sequence studies | Sociomaterial studies |

Based on Poole & Van de Ven (2010)

Implications of adopting the BOR perspective

- Foregrounding OR praxis in academic papers.
- Evaluating impact of diverse OR actors.
- Developing different competences in OR.
- Grounding BOR studies in relevant theories.

Conclusion

- OR is never just about modelling and models, but also about people.
- Eclecticism implied by current published BOR studies should be embraced, not discouraged:
 - Alternative analytical foci and entry points possible
 - Alternative research methodologies possible.
- What BOR studies can offer:
 - empirically-grounded explanations of how OR actors use OR methods in their praxis to produce outcomes;
 - a theory of effective OR practice, i.e. better methods, improved praxis, and increasingly competent actors.

Thank you!

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