

Making Sense of Rich Pictures: Combining SSM and Oval Mapping

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Abstract

This paper describes the use of Oval Mapping Technique (OMT) to combine the insights gained from multiple research sites by a team of researchers drawn from three universities and represented through Soft Systems Methodology rich pictures. The research team were confronted with the problem of how to develop a shared and comprehensive view of the research arena, which was how to gain and apply knowledge about sustainable construction methods. Through the use of OMT the team assembled clusters of related concepts which formed the basis of CATWOEs and root definitions. Further, they overcame their problems that arose from the absence of a problem owner who could verify and legitimate their reading of world.

The C-SanD¹ project committed itself to structure its investigation around Soft System Methodology. The nature of the project, however, has required constant reflection on the SSM process; taking seriously Checkland's injunction that SSM in mode 2 is not a series of steps and techniques but a methodology for "reflection upon the everyday flux of events and ideas using SSM to make sense of it"; and building upon the seven stages and where the area of application is the learning of the actors (Checkland and Scholes, 1990 p 284). By treating the methodology in this way, "every use of it will potentially yield methodological lessons" (p287). SSM as an action research technique is typically aimed at addressing a problem situation in a more or less specific organizational context. C-SanD is, by contrast, seeking to learn from specific instantiations of issues in diverse contexts to design generic systems that will have wide applicability across the construction industry, while realising that the re-introduction of systems and tools based upon this analysis into specific organizational contexts will itself be problematic. Understanding, designing and managing this implementation process will require further exploration, using SSM.

The first stage interviews consisted of 16 interviews with representatives of 10 organizations undertaken by four researchers from three universities. These interviews generated over 500 pages of interview transcripts. Given the time constraints on the project, a method was required which would allow each of the researchers to reach a rich understanding of the issues arising from all the interviews without requiring each of them to express each interview as a rich picture. The intention was to outline the following:

- key issues associated with the project;

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- purposeful activity systems to model;
- key quotes for use in further authoring and to retain a valid account of the perceptions of diverse actors; and
- an interrelated picture of the overall research.

The initial approach was to separate the interview transcripts into sets of company interviews. These sets were then divided among the research officers, ensuring that, as far as possible, each researcher analysed interviews they had *not* undertaken and the transcript of which they had *not* been responsible for correcting. This exchange was intended to provide a degree of inter-contextualisation. The researcher read the transcript through the lens of the interviews they had participated in and thus was able to read the interview differently to how the interviewer would. The perception of lacunae, overlaps and contradictions was a key part of the process of developing the understanding of this complex terrain and its representation as a set of rich pictures representing the researchers' understanding of the different companies' approaches to the issues. The researchers also identified quotations that would be useful in later analysis and which would provide justification for the interpretation made of the interviews. This detailed reading simultaneously enabled each researcher to revisit their understanding of their *own* interviews.

Having produced these highlighted quotes and rich pictures SSM requires the identification of purposeful activity models. In order to make progress on this the four researchers held a one day workshop. They identified the aims of the workshop as being to: shape future activity; understand the interview material better; and identify common themes.

The principal activity of the workshop was the detailed explanation of each rich picture by the person who drew it, the interrogation of the picture by each of the participants and the elucidation through dialogue of the understandings that underpinned the drawings. The aim of this process was both to enrich individual understandings of all of the research data and to identify themes to develop as CATWOEs and models.

At this stage some of the implications of applying SSM in the C-SanD context became manifest. SSM as described in the key texts (Checkland, 1981; Checkland, 2000; Checkland and Scholes, 1990) implies a known client who can take ownership of the rich pictures through discussion with the researcher and through this discussion the key issues for modelling identified. In the C-SanD context there is no single client and the process of legitimation through the project steering group difficult. In this situation producing agreement on action itself needs to be problematised. Each researcher only had detailed knowledge of their own rich pictures and of the interviews they had undertaken. The multiple rich pictures represented overlapping and contrasting concepts and in aggregate portrayed such richness that it was impossible for any individual to gain an overall picture to their own satisfaction.

In order to manage this complexity the workshop adopted the Oval Mapping Technique (OMT) (Eden and Ackermann, 1998). Themes that emerged from the continuing discussion were captured on oval 'post-its', displayed on stuck on the walls of the meeting room. This technique's dynamic nature enhanced the interaction and promoted further discussion. Once this discussion began to die down, and a natural end point appeared to be reached, a debate begun on ordering and collating the disparate ovals into nine clusters of between four and seventeen concepts.

These clusters (attached to this document) have been used to identify issues that can be modelled through one or more CATWOEs and in turn through root definitions. These SSM techniques were supplemented by the writing of vignettes. These vignettes are based on reality: they represent a synoptic view from all the organisations surveyed rather than representing a single point of view and serve the purpose of explicating to the wider research team and industry collaborators the descriptions that led to the models.

Ormerod (1995) has described using cognitive mapping (Eden and Ackermann, 2001), the approach that underpins OMT, as a problem exploration method at the start of SSM and this mixing of the two methods has been used elsewhere (Munro and Mingers, 2000) Mingers and Gill (1997) have described the principles of mixing problem structuring methods advocating the use of *strong pluralism*. This use of OMT embedded as a sense making (Weick, 1995) process within SSM to surface the process of moving from a relatively full description of the world captured in rich picture to the sparer view represented by abstracted models provides a structure for engaging in this critical task as a shared endeavour.

- Checkland, P. (1981) *Systems Thinking, Systems Practice*, Wiley, Chichester.
- Checkland, P. (2000) "Soft Systems Methodology: A Thirty Year Retrospective", *Systems Research and Behavioral Science*, **17** pp. S11-S58.
- Checkland, P. and J. Scholes (1990) *Soft Systems Methodology in Action*, Wiley, Chichester.
- Eden, C. and F. Ackermann (1998) *Making Strategy: The Journey of Strategic Management*, Sage, London.
- Eden, C. and F. Ackermann (2001) "Soda - the Principles" in *Rational Analysis for a Problematic World Revisited: Problem Structuring Methods for Complexity, Uncertainty and Conflict*, (Rosenhead, J. and J. Mingers eds) Wiley, Chichester, pp. 43-60.
- Mingers, J. and A. Gill (1997) *Multimethodology : The Theory and Practice of Combining Management Science Methodologies*, Wiley, Chichester ; New York.
- Munro, I. and J. Mingers (2000) *The Use of Multimethodology in Practice – Results of a Survey of Practitioners*, Warwick Business School, Warwick.
- Ormerod, R. J. (1995) "Putting Soft OR Methods to Work: Information Systems Strategy Development at Sainsbury's ." *Journal of the Operational Research Society*, **46** pp. 277-293.
- Weick, K. E. (1995) *Sensemaking in Organizations*, Sage Publications, Thousand Oaks.