A Quick Sprint through Soft Systems Methodology

A workshop with Rosalind Armson

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This workshop is designed to give participants a flavour of Soft Systems Methodology in action. Rosalind Armson is an experienced systems practitioner and will guide participants through the methodology, working on their own real-world issues. The workshop will be focused, experiential and reflective. The workshop will demonstrate how, in a rigorous way, Soft Systems Methodology can enable the systems practitioner to intervene in a complex real-world situation to improve it or to take advantage of the opportunities it offers.

Participants are asked to bring an issue to work on during the workshop. This need not be a very complex issue but should qualify as a ‘mess’

This document

… is a collection of slides used in the workshop and is designed to provide participants with a record of the slides used and as a basis for their own notes and reflections. It is not intended as a self-standing guide to Soft Systems Methodology.

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1 We can distinguish between two different classes of problems – ‘difficulties’ and ‘messes’. We experience them differently and dealing with them usually requires different approaches.

The first class of problem is difficulties. These may be quite intractable but, broadly speaking, I can be fairly sure of the sort of solution I’m looking for. The problem itself is likely to be fairly well defined and most people involved will more or less agree on what it is. A difficulty is fairly bounded; that is, it only affects a limited set of things, events, people and processes. Political and ethical considerations intrude in only a minor way.

Messes, on the other hand, are much more difficult even to describe. There is likely to be little consensus about what the problem actually is. This means it is often hard to imagine what a solution might look like. Uncertainty is characteristic of messes. Not only does the problem solver not have enough information; it’s not easy to see what information will be needed to improve the situation. This uncertainty and lack of information can generate a sense of unease around the problem. The problem seems to be multifaceted and densely interconnected with a large number of things, events, people and processes. The problem appears to be unbounded: it seems to be interconnected with its environment. Human values, often conflicting, are often a feature of the problem. Often there have been previous attempts to deal with the problem. These may even have appeared to be successful for a time but it is a characteristic of a mess that the problem re-emerges later, perhaps in a slightly different form. Thus messes often have a characteristically longer time-scale than difficulties. Attempted solutions often precipitate the emergence of new forms of the problem. The problem owner may experience ‘problem paralysis’: whatever solution she thinks of seems likely to cause still further problems. A mess can be thought of as a tangle of interconnected problems.
**Aims and Objectives of this ‘Quick Sprint through Soft Systems Methodology’**

**Aims**
- To give some experience of tackling an issue using Soft Systems Methodology
- To share some ideas about, and experiences of, tackling complex ‘real world’ situations in order to improve them

**Objectives**
- Create a rich picture that captures the essential features of the situation that you need to improve
- Identify some themes that emerge from considering the rich picture
- Identify a conceptual, relevant system using *CATWOE* criteria
- Specify a *root definition* of the relevant system
- Construct a *conceptual model* of the relevant system
- Discuss how the conceptual model can be compared with the ‘real world’ complex situation to identify mismatches and how the insights generated can be taking forward through a process of debate and learning.
Some important caveats about this workshop

This workshop is based on what is now called ‘Mode 1 SSM’ or ‘Seven-step SSM’. Checkland now espouses Mode 2 SSM. I am using a Mode-1 approach in this workshop for several reasons:

- Experience of using Mode 1 provides a good basis for progressing to exploration of Mode 2.
- Mode 2 requires experience and talent to work well. The same is true of Mode 1 but in my experience almost anyone can find new insights and ways forward using Mode 1.
- The essential spirit of Mode 2 is present in Mode 1, especially when Mode 1 is used iteratively.
- Mode 1 gives a clear ‘map’ of the methodology so that, although SSM is not meant to be a step by step procedure, beginners know where they are without prejudicing a worthwhile outcome.

Ideally SSM is a methodology, rather than a method. This tends to be obscured by over-proceduralised use of Mode 1. It needs awareness to avoid the trap of becoming methodology-focused. Remaining problem-focused is easier in Mode 2.
Even at a lightning sprint, we will have to stay very focused to meet our objectives.

**Timetable**

11.30  introducing each other, the workshop, SSM  
representing the situation: drawing a rich picture  
developing the rich picture  
identifying and choosing themes  
13.00  conceptualising relevant systems using CATWOE criteria, and then:  
13.30  developing a root definition of the relevant system and drawing a conceptual model  
15.00  comparing the conceptual model to the 'real world'  
15.30  reviewing together  
16.00  reviewing individually  
16.30  reflecting together

*Timetable for 'A quick sprint through SSM'*
Soft Systems Methodology

I am indebted to my colleagues at the Open University for the materials that form the basis of some of the slides I have used (the ones with the borders). Although many of the slides are based on those used in Open University Systems courses, I take sole responsibility for those used here. I am indebted to Ruth and Viola for permission to use the materials relating to their complex ‘real-world’ issue.

Figure 1  The Methodology in summary (from Checkland, 1993)

‘[…] the most effective users of the methodology have been able to use it as a framework into which to place purposeful activity during a systems study, rather than as a cookery book recipe.’  (Checkland, 1993, p. 162-3)
Step 1: The problem situation unstructured

Find out all you can about the situation from as many different perspectives as possible. Talk to as many of the people involved as you can – not just those ‘in charge’ of the situation.

Unstructured problem situation

Look at the problem situation, not the problem

‘unstructured’ means look at the situation with an open mind and from different perspectives
**Step 2: Representing the situation**

‘the richest possible picture’ (Checkland, 1993).

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**Guidelines for rich pictures I**

DO NOT impose a structure on the situation

represent the situation, not 'the problem'

recognise and express your role in the situation

clarify your own objectives and motivations for being involved

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**Guidelines for rich pictures II**

do not try to represent the situation in systems terms

include both 'hard' and 'soft' information

include yourself and the client in the picture

get the client to help

look for elements of structure

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**Guidelines for rich pictures III**

look for elements of process - what's going on

look for ways the process elements and structure elements interact

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*Figure 2* A rich picture might look something like this: it’s rich, it uses relatively few words; it has people in it; it carries ‘emotional’ information; it is sufficiently complex to 'capture' the complexity of the situation.
Step 2½²: selecting problem themes

Themes

Look for themes or issues that appear to be important in your rich picture (avoid identifying ‘the problem’).

² This is not a formal stage in Checkland’s original methodology.
Step 3: Define a relevant system in terms of a root definition that meets CATWOE criteria

Relevant systems and root definitions

- identify a relevant system that relates to each theme
- identify the CATWOE items for one of the systems
- formulate a root definition that defines the essential nature of the relevant system and what it does

CATWOE criteria for root definitions

- Customers - the beneficiaries or victims of the system
- Actors - those who do the constituent activities of the system
- Transformation - what is the transformation process
- Weltanschauung - the world view that gives meaning to the system
- Owners - those who own the system
- Environmental constraints

Figure 3  The CATWOE and root definition of a system relevant to the resources theme in Viola’s and Ruth’s rich picture
Step 4: Devise a conceptual model of the relevant system

**Conceptual model**

This model shows how a system defined by the root definition would work.

The model shows what the system is as well as what it does.

It contains the minimum logical set of activities for the defined system to work.

**Conceptual model guidelines**

The model is an activity model.

List the minimum set of activities that have to occur to make the system work.

Arrange the activities in a logical order.

Check the model is coherent with the root definition.

*Figure 4 A conceptual model of a system for Viola and Ruth*
Step 5: Comparing the conceptual model with the ‘real world’

Comparison

Compare the conceptual model with the rich picture

Does the model address the situation in an improving way?

Which elements of the conceptual model are already present?
Which are absent?

Are the elements connected appropriately?
Step 6: Debating feasible and desirable changes

Discussion

Debate

Take findings back to stakeholders as the agenda for a discussion

Discuss the discrepancies and how the situation might be changed

Negotiate acceptable changes
Step 7: Take action to improve the situation

Implement changes

Implement changes agreed in the debate
Monitor their effect
References


Further reading
