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OVERALL FRAMEWORK OF THE WORKSHOP

• Evaluation strengths and weaknesses
• Case Study
• Systems concepts
  o Inter-relationships – human systems dynamics
  o Perspectives – soft systems
  o Boundaries – critical systems
• So what does it mean to use systems concepts in evaluation?

EVALUATION

Reflecting on your own experience, what are the things that evaluation is particularly good at? What things do you find easy?

Reflecting on your own experience, what are the things that evaluation is not particularly good at? What things do you find difficult?

Add notes of any reflections on the discussion
WHAT DO WE MEAN BY SYSTEM CONCEPTS?

When someone mentions “system”, or “systems concepts” or “systems thinking” what kind of ideas pop into your head?

List them here:

Add those of others.

If the key systems concepts are inter-relationships, perspectives and boundaries, which ones fit where:

Inter-relationships

Perspectives

Boundaries

Which don’t fit any of the three categories? Could this mean they are not fundamental systems concepts?
INTER-RELATIONSHIPS

Interrelationships are the most familiar systems concept. Partly this is because it is the oldest. How things are connected by what to what and with what consequence, stems from the earliest thinking about systems. It is also the concept most strongly embedded in the popular imagination. When we talk about the filing system, or the health system, the image we have in our minds is of a set of objects and processes that are interconnected in some way.

So starting this workshop with a focus on inter-relationships is appropriate for both historical and familiarity reasons. All systems methods incorporate inter-relationship ideas but illustrate the particular way in which systems approaches handle them we draw from part of the systems field called system dynamics. Indeed, the popularity of system dynamics methodologies, with their boxes and arrows, strongly cements the notion of inter-connection being an important systems concept.

Interrelationships and system dynamics

System dynamics is a systems methodology focused on understanding the structural and dynamic relationships within a system.

In general there are two basic approaches to system dynamics.

1. There are approaches that *map* the dynamic relationships and then use a variety of methods to understand the possible consequences of those relationships or to develop theories about them. Essentially these are very sophisticated forms of program logic or concept mapping.

2. There are approaches that *simulate* the dynamic relationships in order to explore the consequences of different amounts of intervention, timing, delay and feedback. The models developed by Jay Forrester and John Sterman are the best known. In the evaluation world, the Centres for Disease Control and Prevention (CDC) is using this approach to system dynamics to determine the worth of particular interventions in AIDS. The important thing to remember about this approach is that the simulation isn’t intended to give you the “right” answer; it’s intended to be another discussant in the room, blending its unique insights with those others provide. But it does help with an area that most of us don’t do well intuitively – deal with feedback and delay.

Both approaches share the following steps :-

**The classic system dynamic process**

- Identify a problem, puzzle, evaluation question, or issue
- Develop a dynamic hypothesis explaining the cause of the problem,
- Build a model of the system at the root of the problem
- Ensure the model reflects the behaviour seen in the real world, or explore similar models that have already been tested.
• Play around with the model to see what insights it gives you about the issue, problem, evaluation question or puzzle.
• Draw conclusions from these insights.

Note that you are not working on the whole program or the whole world, but that part which interests you. This is a critical issue within systems and greatly misunderstood. You are not trying to work on the whole, but only on a part keeping the whole in mind.

**Mapping - Causal Loop Diagramming**

Let’s first explore what can be learned from mapping an issue. Let’s look at the case study example.

First let’s look at what turned out to be quite an important issue – the id of linking a business loan scheme with a health promotion scheme.

What issues arise from this pattern?

What insights can be gained?

Some of these patterns occur over and over again. They are called “system archetypes”
This one is called “Limits to Growth” (a natural “cap” on success). For each archetype there are lessons to evaluators in terms of how the archetype can be successfully managed and where possible interventions lie. (see http://www.peacefulpackers.com/it_solutions/y_03_01.htm)

But what doesn’t the diagram tell us?

**Modelling - Simulation**

What does the simulation tell us that the CLD didn’t tell us?

What are the respective advantages and disadvantages of CLD mapping (including archetypes), and simulation modelling?

What are the potential lessons for evaluation?

**SO WHAT?**

Think about an evaluation you have recently completed, currently doing or aware of. How could the use of this systems tool could be used to improve that evaluation?

2 With the assistance of Bill Harris, Jay Forrest and Robert Muetzelfeldt
PERSPECTIVES:

The introduction of “perspectives” as a core systems concept was profound. Studying inter-connections is all very well, but during the 1970’s it became increasingly recognized that people looked at the same situation and saw different inter-relationships as important and drew different meanings from these inter-relationships. From this developed the idea that “systems” are essentially human constructs rather than naturally existing self defined entities.

This realisation marked a shift from this:

![A SYSTEM](image1)

To this:

![A SYSTEMS VIEW](image2)

This changed the concept of a systemic inquiry from studying a “system” (and noting its observable behaviour), to using systems tools and concepts to take a systemic view of a “situation”, developing a systems understanding of what that means, and seeing what can be learned from contrasting them with other systems views.

This insight made two new things possible and greatly expanded the scope of systemic inquiry.

Firstly, it highlighted the notion that you can “see” the same situation in different ways, and this will affect how you understand the system. This isn’t the same as “stakeholder” perspectives. Different stakeholders may share the same perspective, one stakeholder can hold different perspectives. For instance, we could look at a situation in a hospital as a “health creating system”, an “illness treatment system” or “professional development system”. From those different perspectives we would draw different meanings from the same inter-connections and behaviours.

Secondly, it drew the focus away from the “system” as it supposedly exists in “real life” and allows you to consider alternatively what it might be like, could be like, or how different people imagine it might be like. This hugely expanded the scope of
the systems world. To the traditional domain of “descriptive” inquiry that had previously dominated systemic inquiry, it added the “normative” domain. Not only could you draw conclusions based on a study of the world as it is, but also compare alternative perceptions of what is with what actually is, or with perceptions of what is with what might be. It also began to link systemic inquiry with action learning since the similarities and differences between what is and what might be create puzzles and contractions that enable much deeper learning. It can also generate better insights into the actual behaviour of programs in real life, because people usually behave on the basis of their perceptions of what is, or what might be, rather than some official line imposed by someone else. Sounds familiar? It should do, because it’s the debate that frequently surrounds the evaluation field in general and program logic in particular.

Perspectives and the Case Study

What different ways are there of viewing the case study?

Here are some possibilities:

The case study is about:

Self-sustaining businesses
Micro-loan ideas
Management ability of AWDA
Sex worker numbers
HIV transmission

What other possibilities are there?
Perspectives and Soft Systems Methodology

Soft systems methodology drove the initial focus on perspectives in the early 1970’s. It was initially developed by Peter Checkland at the University of Lancaster in the UK. By the early 80’s it had revolutionised approaches to systems inquiry. Up till then systems inquiry had focused on mapping inter-relationships – soft systems pointed out that systems are essentially mental (or conceptual) models – they may exist in the real world but what matters is the different ways we think about them.

Soft systems methodology is a substantial process that covers inter-relationships, perspectives and boundaries. The section on “Further Reading” gives references to the full methodology. The entire process is outlined below:

However in this workshop we will only be dealing with parts that highlight the use of perspectives – essentially the two steps below the line that separates the “real world” from “systems thinking about the real world”.

Most situations are capable of many different perspectives. The problem is that it is easy to get lost in the possibilities, so usually we decide on one and stick to it. Soft Systems Methodology overcomes this problem by taking these different perspectives of a situation and then exploring what the implications are of seeing purely through each perspective. By comparing and contrasting the consequences of doing this, you gain insights on the messiness of the real world and thus enable you to do things about it.
**Task One**

Discuss the perspectives you identified earlier with your group.

Pick one of the possible perspectives as providing potentially some good insights into the behaviour (perhaps unexpected behaviour) of the program.

**Task Two**

For this perspective, identify:

- **Customers:** who are this system’s beneficiaries?
- **Actors:** who provides the skills to make the system work?
- **Transformation:** what is different at the finish compared with the start?
- **Weltanschauung:** what relevant assumed viewpoint gives the system meaning?
- **Owner:** who could cause this “system” not to exist?
- **Environment:** what influences but does not control the system?

Before you start here are some guidelines:

First identify the “Transformation” (T) - there may be several possible transformations, but pick only one relating to the stated systems perspective.

Now list the key assumptions or world views (W) that are implied by this transformation. What give this transformation “meaning”

Now identify who actually benefits from that transformation (C), then who will be necessary to bring about that transformation (A) and who could stop it from happening (O).

Now identify relevant factors in the environment (E) that could help or hinder this process but are unlikely to be affected much by it.

**Task Three**

For each element of CATWOE remove all but one component.
List them here:

C
A
T
W
O
E

Now put this into a statement along the lines of “A system to do T to C by A given WOE”

If the program was based only on these elements what would be the same or different from the Program Logic. What extra insights might you get if you included this in your evaluation? How might you have designed a different evaluation approach with this perspective in mind?

Now replace one of those elements with another one. How have your insights changed?

Task Four

Now compare these with groups who took a different perspective. What other insights are generated.

Task Five – SO WHAT?

Think about an evaluation you have recently completed, currently doing or aware of. How could the use of this systems tool could be used to improve that evaluation?
BOUNDARIES

By the early 1980’s questions were being raised about the ethics of the perspectives being taken. It may all be very well to map relationships and it may be fine to acknowledge that there will be different perspectives on those relationships. But those activities are not neutral – someone somewhere decides which of these are most important.

To what extent does the adoption of one perspective exclude other perspectives? What are the consequences of this? Who decides which perspective is dominant? These decisions and power relationships effectively determined the “boundaries” of a systems inquiry. Boundary setting is important because it decides what is “in” and what is “out” – and thus who gains and who loses from the perspectives being taken.

Let’s look at the implications. Consider a piece of work you have recently completed.

How did you establish what was in or out of the scope of the work (ie which interrelationships were relevant)?

How did you establish what standpoint to take? (ie whose or what kind of perspectives were relevant)

Who (people) or what (ideas) benefited from those decisions and who or what was disadvantaged by those decisions?

Did you address processes of marginalisation preventing the inclusion of key interrelationships and perspectives? If so, how?

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3 With the assistance of Martin Reynolds
Boundaries and Critical Systems Heuristics (CSH)

The systems theorist and sociologist C. West Churchman had been arguing in the 1970s about the ethical decisions surrounding boundary setting when constructing systems viewpoints. Churchman was concerned about how boundary judgements often have the effect of exacerbating existing social injustices by excluding or marginalising important viewpoints. In other words our choice of what comprises the system (and especially its fundamental purpose) determines what comprises the environment. Thus as soon as you take a particular systems perspective on a situation there are implications for what lies outside that perspective.

There are two major implications, one ethical and one practical.

The ethical implication is that your choice of system could "harm" those who (or what) lie in the environment. From an ethical point of view, you have an obligation to investigate and assess whether you want to mitigate that harm.

The practical implication is that those "harmed" may respond in ways that undermine the purpose of your chosen system. You will thus want to investigate this and explore possible strategies to prevent that undermining of purpose.

Churchman and especially his student Werner Ulrich suggested you can address these issues through a process called “boundary critique”. They identified two key boundaries to critique.

The first boundary is between the system and its environment. There will be people and ideas in the environment that will be harmed by the system. There is an ethical and practical need to investigate the tension between the system and this harm.

The second boundary is between the system as it is currently defined and the system as it ought to be defined. There is an ethical and practical need to investigate the tension between the is and the ought, the descriptive and the normative.

A very simple way of exploring these issues is to divide “customers” in soft systems methodology into two groups “beneficiaries” and “victims”, and allowing them to include ideas, and things as well as people.

However, in the early 1980s Werner Ulrich developed an heuristic to help explore these issues with much greater precision.

The heuristic organises the components of a system and its environment into four main categories.

1. Motivation (why this system)
2. Control (who/what controls this system)
3. Expertise (who/what ensures that this system will be a success)
4. Legitimacy (who/what provides meaning for this system and how is this reconciled with alternative meanings associated with those who might be harmed by the system. Legitimacy is best conferred from outside the system (ie operates in the system’s environment), because it should not be corrupted by the system.
Each category has three components, the first is a “what”, the second a “who” and the last one tending to “problematising” the other two. This latter component promotes reflection and critique.

The heuristic thus looks like this:

**Motivation**

- **Purpose**: what is the purpose of the system?
- **Beneficiary** (‘client’): who is the client or beneficiary of the system
- **Indicators of success**: how will you know if the purpose impacts on the beneficiaries in the intended way?

**Control**

- **Resources**: what resources are necessary to achieve the system’s purpose? (e.g., financial, physical, natural, human resources, social capital)?
- **Decision maker**: who controls those resources to enable the system to achieve its purpose?
- **Decision environment**: what important factors might be outside of the decision makers’ control?

**Expertise**

- **Expertise** (guarantor attributes): what kind of formal and informal expert skill-sets or relevant knowledge will ensure the purpose is achieved (e.g., formal technical and disciplinary skills, facilitation skills, and other relevant experiential, non-formal and professional skill-sets)?
- **Expert** (or designer): who is involved with providing necessary skills to ensure or ‘guarantee’ that the system can succeed?
- **False Guarantee**: What aspects of “expertise” and “expert” might create an unrealistic or false sense that the use of the expertise and experts will enable the purpose of the system when implemented?

**Legitimacy**

- **Emancipation (Victim)**: Who or what could fall victim or be negatively affected by the system? This could be marginalized stakeholders, future generations, non-human nature, or ideas associated with beliefs, values, morals, ideologies.
- **Witnesses**: who is representing the interests of the system potential or actual victims, particularly those interests that cannot speak for themselves?

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4 Actually the Heuristic looks slightly different. In the original version the first two items are reversed. I have switched them since Martin Reynolds suggests this order when working through the heuristic.
• **World view:** What is the source of the tension between the standpoint of “system” and the negative effects of the system? And how can that tension be reconciled?

As if this wouldn’t create enough debate and dialectic, the heuristic also creates a dialectic between the descriptive (what *is*) and the normative (what *ought* to be). [Soft systems does something similar]. The 12 categories above were phrased in a descriptive sense (what *is* the situation we are viewing). To complete the heuristic we repeat the exercise in a normative frame – by switching to an *ought* set of phrases. (eg what *ought* to be the tension between the systems and its negative effects). Thus creating even more opportunity for evaluative inquiry and conclusions.

What you get out of this process is a deep understanding of the value or worth of the system, to whom and in what circumstances. In other words a powerful set of judgements of value or worth.

**Task One**

The table below is a way to record a CSH evaluation. Note the critique between “is” and “ought”. Fill in the table as much as you can using the information from the case study. The task is to start at “purpose” and proceed horizontally along the each row of the table. The process is cumulative (eg “resources” are framed in terms of the resources needed, to ensure the measures of success as experienced by the beneficiaries in the achievement of the defined purpose)\(^5\)

<table>
<thead>
<tr>
<th>Sources of motivation</th>
<th>Purpose</th>
<th>Beneficiary/ client</th>
<th>Indicators of success</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘is’</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘ought’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>critique ‘is’ v ‘ought’</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Sources of control</th>
<th>Resources</th>
<th>Decision-maker</th>
<th>Decision environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘is’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘ought’</td>
<td></td>
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<tr>
<td>critique ‘is’ v ‘ought’</td>
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<table>
<thead>
<tr>
<th>Sources of knowledge</th>
<th>Expertise</th>
<th>Expert</th>
<th>False Guarantee</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘is’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘ought’</td>
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<td>critique ‘is’ v ‘ought’</td>
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<table>
<thead>
<tr>
<th>Sources of legitimacy</th>
<th>Emancipation</th>
<th>Witness</th>
<th>Worldviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘is’</td>
<td></td>
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<td>‘ought’</td>
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<td>critique ‘is’ v ‘ought’</td>
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</tbody>
</table>

\(^5\) Again note that in the original version of this table the “what” and “who” columns are reversed.
Task Two – So What?

If you were to take the lessons of a systems approach to boundaries, how might you modify or adapt the case study?

Think about an evaluation you have recently completed or are currently doing. How could the use of this systems tool be used to improve your evaluation practice?
PULLING EVERYTHING TOGETHER

Let’s go back to this illustration from the pre-workshop handout:

Out of these hundreds we have picked just three to highlight three recurring key systems concepts of inter-relationships, perspectives and boundaries. Our three examples - respectively drawn from traditions of systems dynamics, soft systems and critical systems, - each exhibit the three concepts but with different emphases. Systems dynamics emphasises inter-relationships and the dynamics of inter-relationships. Soft systems methodology emphasises the importance of handling multiple perspectives in any evaluation endeavour. Critical systems heuristics emphasises the importance of boundary judgements in order to check against perpetuating malignant practice.

Looking at the strengths and weaknesses of evaluation you identified at the beginning of the workshop, how can a systemic focus on inter-relationships, perspectives and boundaries enhance the strengths and dilute the weaknesses?
FURTHER READING

**General texts on systems concepts**

There are very few general texts on systems concepts. Most that claim to be are essentially texts on system dynamics. Genuinely multiple methodology texts include:

  Available as a free download from


- Rethinking the 5th Discipline: Learning within the unknowable by R Flood
  An excellent primer that can be purchased as an ebook from here:

- There is very little on the web – again most of what claims to be general is essentially system dynamics. Bob Williams’ website contains some material
  [http://users.actrix.co.nz/bobwill](http://users.actrix.co.nz/bobwill)

**Systems dynamics**

- Books:
  - Chapters by Burke and Meter in Systems Concepts in Evaluation
  - The Dynamics of Human Service Delivery by Cambridge: Ballenger 1976

- Web resources:
  - The System Dynamics Society: [http://www.albany.edu/cpr/sds/](http://www.albany.edu/cpr/sds/)
  - The MIT systems dynamics web site: [http://sysdyn.clexchange.org/](http://sysdyn.clexchange.org/)
    which also has an on-line guide to system dynamics called “Road Maps”
  - Bill Harris’ website: [http://www.facilitatedsystems.com](http://www.facilitatedsystems.com)
**Soft systems**

**Books:**

Chapters by Tay and Attenborough in Systems Concepts in Evaluation

Soft Systems Methodology in Action by Checkland and Scholes; Wiley 1999


**Web resources:**

Soft Systems Methodology – [http://users.actrix.co.nz/bobwill/](http://users.actrix.co.nz/bobwill/) Go to the section titled “systems stuff” in the sidebar menu

**Critical Systems**

See chapters by Midgley and Reynolds in Systems Concepts in Evaluation


**Web resources:**


**Other systems approaches**


Viable Systems – see Fitch’s chapter in Systems Concepts in Evaluation

System Dynamics

Chapters by Burke and Meter in Systems Concepts in Evaluation

The Dynamics of Human Service Delivery by Cambridge : Ballenger 1976


The System Dynamics Society: [http://www.albany.edu/cpr/sds/](http://www.albany.edu/cpr/sds/)

The MIT systems dynamics web site: [http://sysdyn.clexchange.org/](http://sysdyn.clexchange.org/)

which also has an on-line guide to system dynamics called “Road Maps” [http://sysdyn.clexchange.org/road-maps/home.html](http://sysdyn.clexchange.org/road-maps/home.html)

Bill Harris’ website: [http://www.facilitatedsystems.com](http://www.facilitatedsystems.com)

**Acknowledgements**

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