# Group Model Building Scripts

| | Reference Behaviour Patterns |
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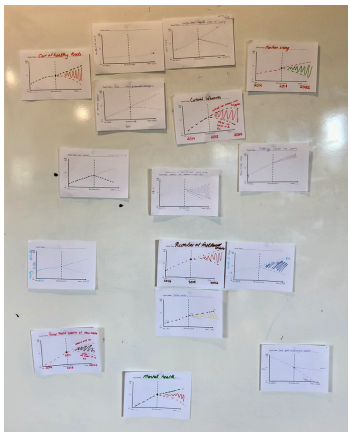
| Context | Shifts peoples' thinking from broad concepts down to specific variables of interest |
| Purpose | This script is used to engage participants in a group model building session in framing the problem, initiating mapping, eliciting variables, and gathering input in deciding the reference modes for the study. It is performed at the beginning of a group model building session as it is a springboard for discussion about the problem to be modelled. |
| Primary Nature of Group Task | Divergent |
| Time | Preparation: 15 minutes<br>Time Required During Session: 45 minutes |
| Materials | 1. Blank A5 RBP templates<br>2. Wall space<br>3. Suitable felt tip pens<br>4. Blue tack<br>5. Camera to capture RBP outputs |
| Inputs | None |
| Outputs | Candidate variables for the model building<br>  |
| Roles | • Facilitator who has some experience with SD to work with the group<br>• Modeler who listens to what is being graphed and the way people are talking about the graphs, and who is also be able to conceptualize the early seeds of system structure<br>• Wall-builder with little or no experience in SD who will cluster graphs and talk about themes<br>• Recorder to document the session and photograph the clustered graphs<br>• Runner (optional) to bring the graphs from the community facilitator if the group is large |
| Steps | 1. Based on group size, decide whether to break participants into subgroups. In smaller groups (N<10), allow individuals to work and present independently. In larger groups (N >10), divide participants into subgroups of roughly 10. Ask the subgroups to sit together.<br>2. The modelling team hands out sheets of white paper to each participant. |

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| | 3. The facilitator gives an example of how to draw a graph over time, carefully labelling the X-axis as "Time," and adding a start time, end time, and the present time indicated with a vertical dashed line. The Y-axis is labelled with a variable name. The facilitator then sketches the behaviour over time.<br>4. The facilitator then asks participants to draw one variable over time per piece of paper. The participants should be given the option of including hoped for behaviour, expected behaviour, and feared behaviour on the same graph.<br>5. The facilitator and wall-builder walk around and help participants with the task if they need it. Allow 15 minutes or until the group runs out of steam to complete the task.<br>6. Reconvene as a large group:<br>a. If N<10, the facilitator takes one graph at a time from each participant, holds it up in front of entire group, and asks him/her to talk about it. Ask for participants to share the "best stuff" first. Clarify timescale, variable names, etc.<br>b. If N>10, instruct subgroups to share their graphs with each other and choose the ones they think are most important. The facilitator then goes to each subgroup and holds the first graph they have selected up in front of entire group. The subgroup spokesperson talks about the graph. Ask subgroups to share the "best stuff" first. Clarify timescale, variable names, etc.<br>7. The facilitator then hands the graph to the wall-builder.<br>8. The facilitator repeats steps 6 and 7 with each participant or subgroup, taking one graph at a time until all graphs are shown, or time has run out. Finish by asking if any participant has something else that really ought to be shown.<br>9. During steps 7-8, each graph is posted on the wall. The wall-builder tries to cluster the graphs meaningfully on the fly based on themes and variables.<br>10. The facilitator asks the wall-builder to explain the clusters of graphs on the wall. The wall-builder tries to summarize dynamics that help to characterize the problem that emerges from the participants' graphs.<br>11. The facilitator enables the participants to talk about the clusters and the characterization of the problem they imply.<br>12. Consider labelling the clusters based on themes or related variables. There is potential for the modeler to close by highlighting the beginnings of feedback thinking in the dynamic problem. |
| Evaluation Criteria | • Interesting, self-sustaining group discussion about clusters (Example 2) described by the wall-builder<br>• Meaningful clusters identified<br>• Graphs tend to converge to a clear dynamic problem<br>• Some key dynamic variables emerge from reflecting on the graphs and thematic clusters<br>• Modelling team can begin to see key stocks and perhaps important feedback loops<br>• Members of the group appear to have a better understanding |
| Authors | George P. Richardson and David F. Andersen |
| References | Andersen, D. F., & Richardson, G. P. (1997). Scripts for Group Model Building. *System Dynamics Review*, *13*(2). |
| Source Script | https://en.wikibooks.org/wiki/Scriptapedia |