

Jac A. M. Vennix (1999): Group model-building: tackling messy problems

In this paper Vennix is describing how Group model-building is usable to tackle messy problems in the context of managerial situations with differing opinions. To be able to solve such problems, theories from sociology, psychology and small-group research are interlinked with System Dynamics. Main focus of GMB is to involve the client in the model-building process for three main reasons: 1. To capture required knowledge. 2. To increase chances of implementation. 3. To enhance the learning process of the client. Finally the author emphasizes that GMB and facilitation training should be included in the System Dynamics teaching programs, because knowing modeling alone is not sufficient to achieve consultancy goals.

The evaluation of GMB: Client involvement and System Dynamics

- Supporting strategic executive dialogue in management teams.
- “Modeling as learning” as alternative consultancy methodology.
- Emphasis on problem structuring, consensus, and commitment.

Individual sources of messy problems

1. Limited information processing capacity
 - a. Biases and heuristics to reduce mental effort.
 - b. Difficulties to think in causal nets and to include feedback loops.
 - c. Quantification can reduce relevance of a model for an audience.
 - d. Advantages of diagramming: 1. Keep track of complex structures. 2. Add rigor to analysis and group discussion. 3. Problem on one sheet. 4. Group memory.
2. Perceptions and reality construction:
 - a. Professional background or position in an organization effects selection and interpretation of information (also without high stakes).
 - b. Hindsight bias: Reconstruction of the past to fit with current beliefs.
 - c. GMB forces participants to make their mental models explicit and to surface implicit causal assumptions.
 - d. Departmental bias: Seeing parts instead of the whole. → deadlock situations

Group sources of messy problems

- a. Variety of deficiencies: e.g. mixing up cognitive tasks, production and evaluation of information, tendency to evaluate what is said, lack of critical investigation.
- b. Problem of defensiveness (to avoid losing face): Low-quality communication, increase of decision time, negative impact on decision quality, inhibits creativity in groups.
- c. A’s behavior forms part of B’s environment and vice versa.

Critical characteristics of an effective facilitator

- Attitudes are more critical than skills: helping attitude, enquiring attitude, integrity, etc.
- Skills: Translate what people say to SD, process structuring, conflict handling