Technical approaches in collaborative stakeholder decision making

Simon Harris¹, Melissa Robson, & Ned Norton

¹ Harris Consulting, N.Z.

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TECHNICAL APPROACHES IN COLLABORATIVE STAKEHOLDER DECISION MAKING

SIMON HARRIS, MELISSA ROBSON, NED NORTON
COLLABORATIVE STAKEHOLDER DECISION MAKING

- WICKED PROBLEMS – UNCERTAINTY, MULTIPLE PERSPECTIVES, NON UNIQUE SOLUTIONS
- STAKEHOLDER DECISION MAKING –
  - ACCEPTABLE VS OPTIMAL
  - TIME BOUND
  - LEARNING PROCESS
- TECHNICAL TEAM
  - SUPPORTS
  - LARGE
  - VERY DIFFICULT ROLE

- HOW DO TECHNICAL TEAMS DECIDE WHAT TO DO?
- FRESHWATER MANAGEMENT AS EXAMPLE
FRAMEWORK

Variables
• Complexity
• Data inputs (existing/new)
• Disciplines
• Model types
• Model integration
• Quantitative vs qualitative
• Outputs (range, detail)
• Interaction between disciplines

Constraints

Output characteristics
• Who is making decision (internal/external?)
• Policy options
• Nature of Decision (consensus, decide/defend etc.)
• Error type and direction
• Expertise of decision makers
• Learning/answer
• Values of importance

Time
Resource
Uncertainty
OUTPUT CHARACTERISTICS

- Expertise of users
- Learning vs. answer
- Values addressed
- Policy options available
- Error type
- Nature of decision making (consensus vs. majority)
- Involvement of the technical team in the decision making
- Face time, decision making time
FRAMEWORK

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**Time**

**Resource**

**Uncertainty**
CONSTRAINTS

• TIME – NEVER ENOUGH
• RESOURCES – PEOPLE AVAILABILITY IS AS IMPORTANT AS $
• UNCERTAINTY - INTRACTABLE
FRAMEWORK

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Uncertainty

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VARIABLES - COMPLEXITY OF MODELING

- Nature of decision – Contested tend to require more representative models
- Learning – Complexity can work against learning
- Error type
- Model type
- Data
- Interaction between models (see next)
DATA

• DECISION TYPE – THE MORE CONTESTED THE FINAL DECISION WILL BE, THE MORE DATA INTENSIVE
• LEARNING – DATA COLLECTION CAN BE USEFUL LEARNING
• VALUES
DISCIPLINES

• COVER VALUES TO BE ADDRESSED
• NATURE OF DECISION (STAKEHOLDER CONSENSUS MAY BE MORE FLEXIBLE)
• EXPERTISE – CAN SUBSTITUTE STAKEHOLDER EXPERTISE FOR TECHNICAL
• POLICY OPTIONS – SOME DISCIPLINES CAN’T BE ADDRESSED
MODEL TYPES

• EG STATISTICAL, SIMULATION, OPTIMISATION, SPATIAL, BBN, NARRATIVE

• NEED TO CONSIDER
  • POLICY OPTIONS
  • LEARNING AND EXPERTISE
  • ERROR TYPE
  • DATA AVAILABILITY AND ACCURACY
MODEL INTERACTION

• INTERACTION BETWEEN MODELS GENERATES
  • COMPLEXITY,
  • CALIBRATION PROBLEMS,
  • FLEXIBILITY ISSUES, AND
  • BOTTLENECKS
OUTPUTS – RANGE AND DETAIL

• DECISION MAKERS OFTEN LAY PEOPLE
• HAVE LIMITED TIME TO DIGEST ISSUES OUTSIDE MEETINGS
• HAVE EVEN LESS TIME IN MEETING FOR TECHNICAL INPUTS
• LIMITED NUMBER OF THINGS THEY CAN CONSIDER
• WITH LONG PROCESSES FORGET WHAT THEY LEARNED
• NEED TO BE REALISTIC ABOUT WHAT WE PRODUCE – FOCUS ON KEY INDICATORS
• HELICOPTER VIEW INITIALLY, THEN FOCUS ON KEY STICKING POINTS
INTERACTION WITHIN TECHNICAL TEAM

- NATURE OF DECISION
- INVOLVEMENT IN DECISION
- LEARNING
- DECISION MAKER EXPERTISE
- KEY TO DEVELOPING UNDERSTANDING AND SOLUTIONS
DISCUSSION

• STAKEHOLDER PROJECTS ARE MESSY
• PRECISION OVER-RATED
• UNCERTAINTY HIGHLY LIMITING
• REALITY OF DEALING WITH STAKEHOLDER GROUPS – TIME, EXPERTISE, IMPORTANCE IN DECISION
• INTERACTION OF PEOPLE OVER MODELS