



# What is difficult in naval sensemaking?

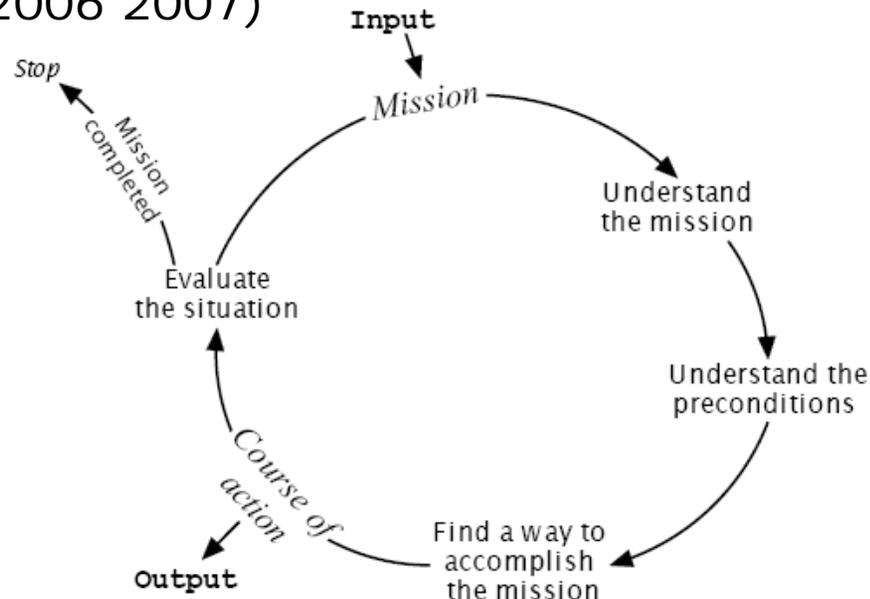
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# Purpose of study

- What do military decision makers perceive as difficult when preparing for and carrying out military missions?
- Which part of these activities can gain from engineered support?
- Rationale: It is more likely that people will appreciate support that helps them with things they find difficult
- It does not exist very much empiric data on this subject

# Sensemaking

- Sensemaking is what people do in order to decide how to act in the situations they encounter (Weick 1995)
- Sensemaking is oriented towards action: command and control is not about deciding how things are, it is about finding a course of action (COA) that accomplishes the mission (Brehmer 2006, 2007; Jensen 2006 2007)



Functional model of sensemaking (Jensen 2007)

# Participants

- 9 Navy officers
- 1 Vice Admiral, 1 Rear Admiral, 1 Flottilia Admiral, 2 Captains, 3 Lt Colonels, 1 Lt Commander
- 8 Surface Warfare and/or Anti Submarine Warfare, 1 Mine Warfare
- Led 10 - 100+ planning processes on tactical level or above
- Led 10 - 100+ naval missions (exercise or live)

# Procedure

- Structured interviews
- Interview guide based on activities during planning and execution

## Planning

1. What must be accomplished
2. Freedom of action
3. Uncertainties
4. Immediate actions
5. Success factors
6. Civilian forces
7. Own forces
8. Enemy forces
9. Third party
10. Terrain, weather, visibility
11. Comparison of forces
12. Enemy courses of action (ECA)
  - a. Hard to generate sufficient amount?
  - b. Hard to generate sufficiently different?
  - c. Hard to judge the realism of the ECA?
13. Develop own course of action (OCA)
  - a. Hard to generate sufficient amount?
  - b. Hard to generate sufficiently different?
  - c. Hard to judge the realism of the ECA?
14. Selection of OCA
  - a. Hard to compare?
  - b. Hard to judge strengths and weaknesses in each?
15. Wargaming
  - a. Structured
  - b. Mental simulation

## Execution

16. Monitor the situation
  - a. Civilian forces
  - b. Own forces
  - c. Enemy forces
  - d. Third party
  - e. Weather, terrain, visibility
17. Decide whether it proceeds according to plan
18. Decide whether changes are needed within current plan
19. Decide whether it deviates to such extent that a new plan is needed
20. Decide whether a situation has evolved that can be exploited such as the mission can be accomplished in a more expedient way
21. Enemy courses of action
22. Own courses of action
23. Wargaming
  - a. Structured
  - b. Mental simulation

*“What do you do to understand what must be accomplished, and what is difficult with that?”*

# Analysis

- Data analysed from two perspectives:
  - How "difficult" the topics in from the interview guide were
  - What caused the difficulties

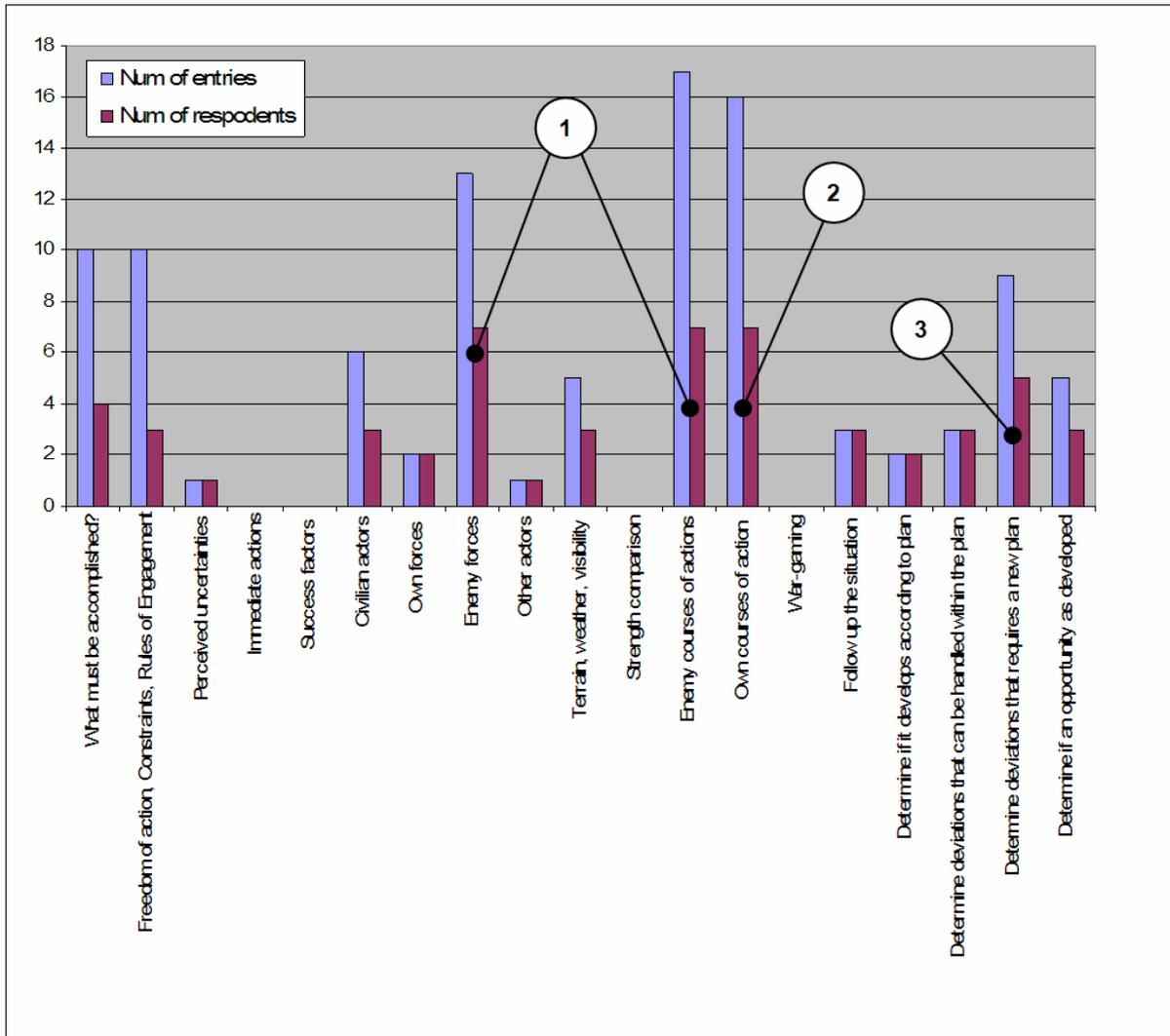
# Difficulties per Topic

- Transcriptions scanned for occurrences of "difficultiy" or synonym
- Occurences analysed in two ways:
  - Number of occurences per topic from interciew guide
  - Number of participants per topic

# Causes to the difficulties

- Occurrences reanalysed with respect to what caused the difficulty
- Categories were created
- Data reduction – difficulties sorted to each category
- Categorization checked for validity through interrater
  - 32 occurrences randomly selected
  - Second rater trained on the categories
  - Second rater had to assign a category to each occurrence

# Results, Which Topics Were Difficult?



**1 = Enemy**

**2 = Own course of action**

**3 = A new plan is needed**

# Results, What caused the difficulties?

- Freedom of action (3)
  - Mental limitations (14)
  - Mental adjustment (7)
  - Military-Civil cooperation (7)
  - **Uncertainty (69)**
  - Difficulties to choose COA (4)
  - Complexity (2)
  - Information management (2)
  - Technology (2)
  - Time pressure (2)
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- Interrater reliability: Agreed on 24 of 30 codes (80%)

# Results, most difficult topics

- **Enemy** (Enemy forces, enemy COA)  
Out of 30 occurrences 25 were categorized as "Uncertainty"
- **Own courses of action**  
Out of 16 occurrences 8 were categorized "Mental limitations", 4 "Difficult to choose"
- **A new plan is needed**  
Out of 9 difficulties 5 were categorized as "Uncertainty", 4 "Mental adjustment"

# Discussion

- Sense making is about finding a COA that accomplishes the mission
- Two possible problems:
  - Coming up with something to do
  - Decide if that something will accomplish the mission
- Lipshitz & Strauss "Uncertainty in the context of action is a sense of doubt that blocks or delays action"
  - Does uncertainty block action?
  - Does uncertainty delay action?

# Discussion

- The difficult thing is not coming up with something to do, the difficult thing is to make sure it is a good way of doing things
- Uncertainty does not block action
- Uncertainty may delay action

# Discussion

- Support for sensemaking should focus on helping people test if the ideas they come up with can accomplish the mission, rather than helping people to come up with ideas