



Good Sensemaking is More Important than Information for the Quality of Plans

Eva Jensen

Swedish National Defence College

Sensemaking

is the ongoing process of finding out how to act in order to reach one's goal(s)

Two different views

Goal

1

Sensemaking

Situation Awareness → Understanding → Action

DATA

Bottom-up

2

Goal

Sensemaking → Action

Goal

Situation Awareness

DATA

Top-down

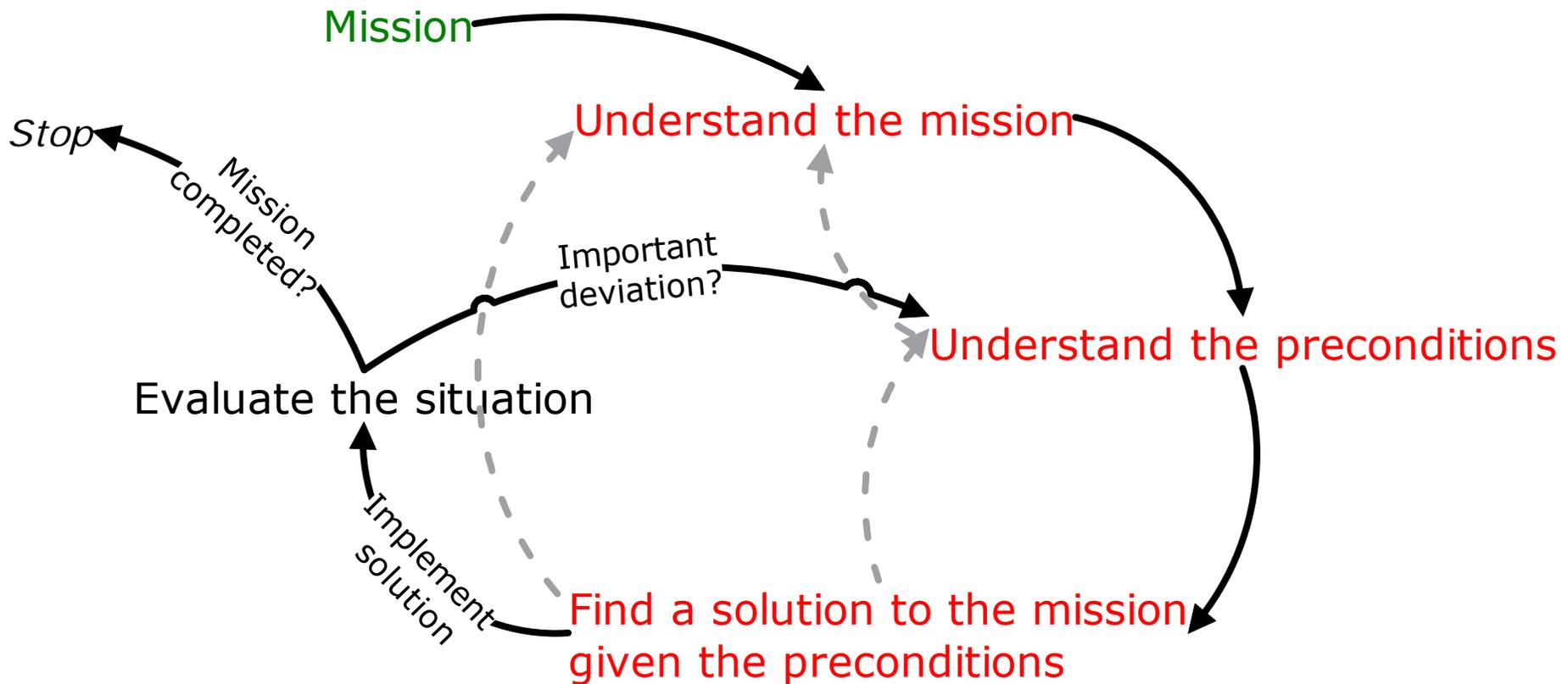
Usefulness of data: Predictions

1. Bottom-up: The more the better

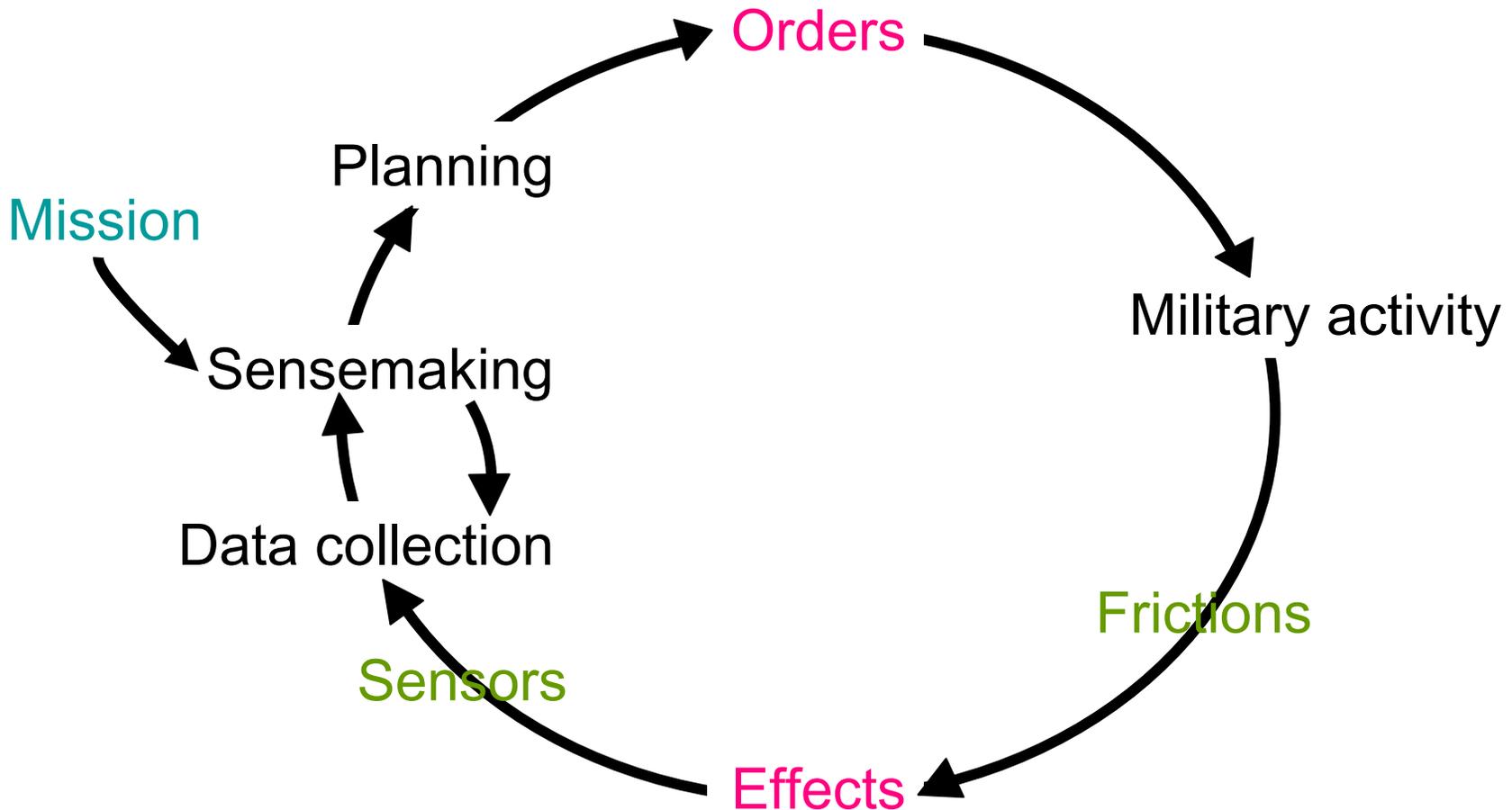
2. Top-down: Enough is enough

These predictions are put to test

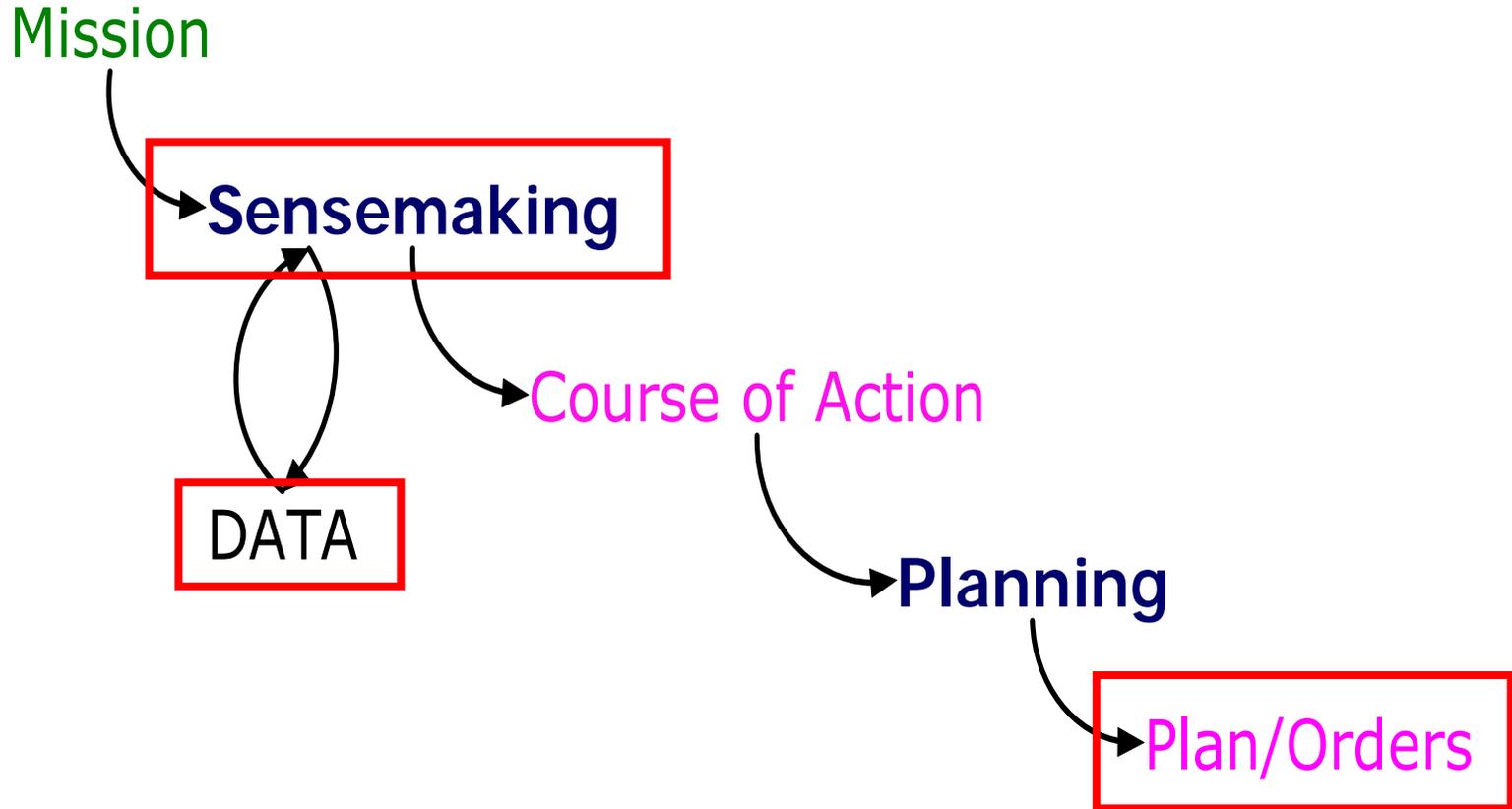
Military sensemaking



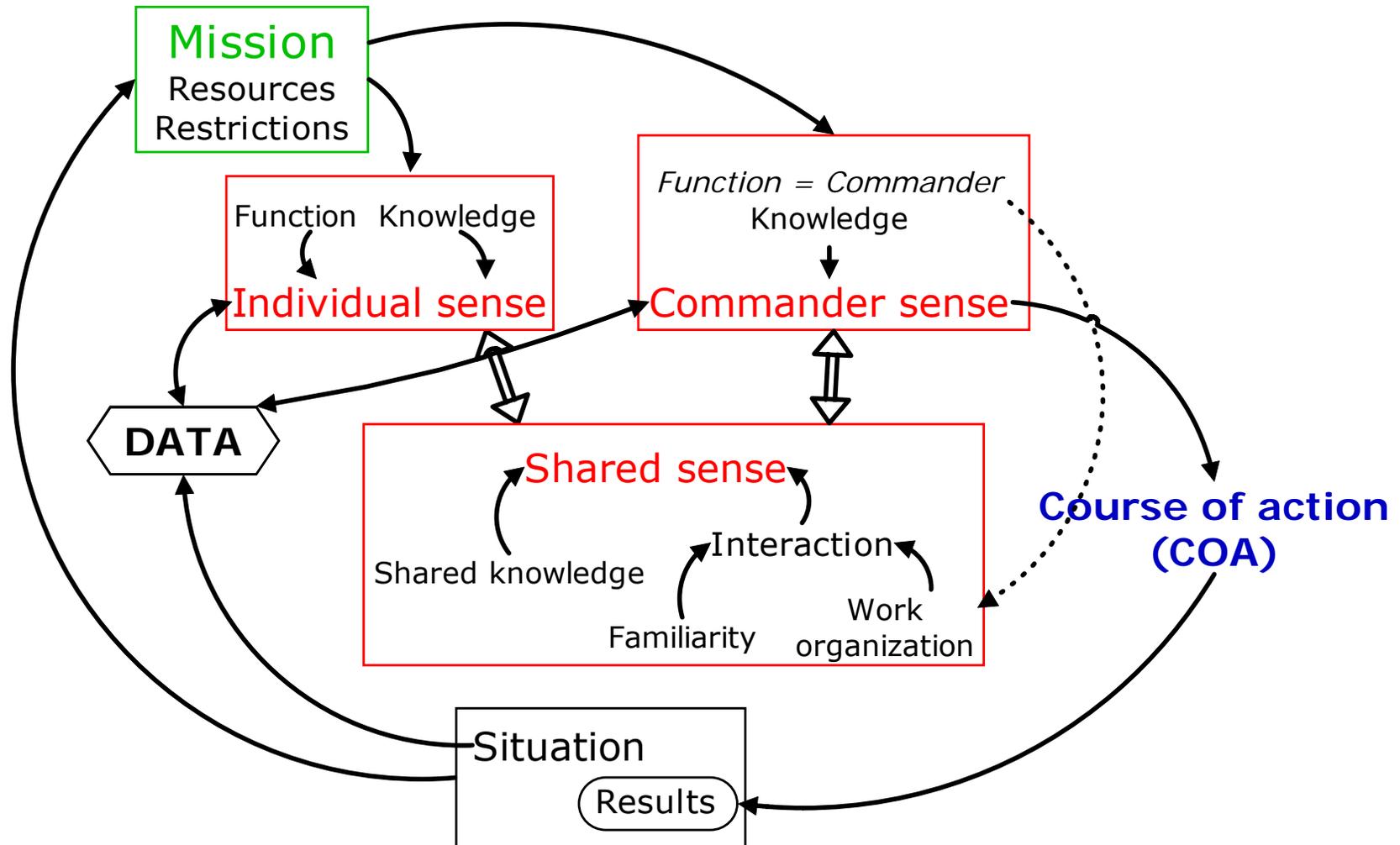
The DOODA loop



Processes and products



Sensemaking in military command teams



The experiment

- Participants: 99 Army captains
- Teams of 5-7 members with one commander
- Brigade command
- 8 teams NCW data + 8 teams normal data
- Battle scenario: Stop invasion of Stockholm
- Task: Order to battalions in 6 hours

Sensemaking process assessment

- Understanding the mission
- Understanding the present situation
- Identifying possible COAs
- Evaluating possible COAs
- Generation of criteria for success
- Team sense \longrightarrow Deciding on a COA
- Commander performance



Likert scale: 1:really bad *to* 6:excellent

Results: Plan quality

- Raters: Two military experts
- Inter-rater agreement: reliability = .70

	NCW	Control	Diff.	Sd
Rater A	92	121	-29	31
Rater B	98	94	4	20
SUM	190	215	-25	46

No effect of richness of data on plan quality

Results: Sensemaking process quality

- Raters: Two civilian raters (2nd rater assessed 8 teams)
- Inter-rater agreement: reliability = .74

	NCW	Control	Diff.	Sd
Understanding mission	4.0	3.9	0.1	0.8
Understanding situation	3.5	3.5	0	1.4
Possible COAs	3.6	3.2	0.4	1.1
Evaluate COAs	4.0	3.6	0.4	1.4
Criteria for success	4.2	4.5	-0.3	1.0
Team sense	4.6	4.6	0	1.4
Commander performance	3.6	3.6	0	1.4
SUM	27.5	26.9	0.6	6.8

No effect of richness of data on sensemaking performance

Results: Plan quality and sensemaking

Plan quality was strongly related to sensemaking performance

$$r = .70 (p < .05); r_c = .97$$

Sensemaking central to military command

- The sensemaking process proved **more important than** the richness of data
- The results are inconsistent with the traditional **bottom-up** view of military sensemaking

Most important

Commander performance

$$\beta = 0.72, F_{(1,14)} = 15.2, p < .01$$

Explanation: Insufficient experience leads to variation in commander performance

Sensemaking measurement

- Successful
- Reliable
 - Principal components analyses
 - 2 Factors (Eigenvalues > 1)
 - First factor – 65 % of the variance
 - All criteria except for “Understanding the mission”
 - “Understanding the mission” made the second factor
 - Later studies - more detailed instructions for coding and rating
- Independent of plan quality

Guidelines for planning

The Planning Under Time Pressure (PUT) guidelines (by Thunholm) were used by the teams

They dictate **what to do**

but not **how to do it**

The sensemaking model

- Sensemaking is directed by **the mission**
- Sensemaking is a **collaborate** process
 - a combined collective (the team) and individual (the commander) process
- A **process** model

Concluding remarks

- Sensemaking is central to military command
- It can be measured
- **Assumption:** Well-designed information pull is to be preferred to information push

Thank you for your attention!



Questions or Comments?