

SASI WS 4A-09

Human Factors in Safety Survey

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Plan

- What to survey from a Human Factors perspective
- How to survey HF best practice

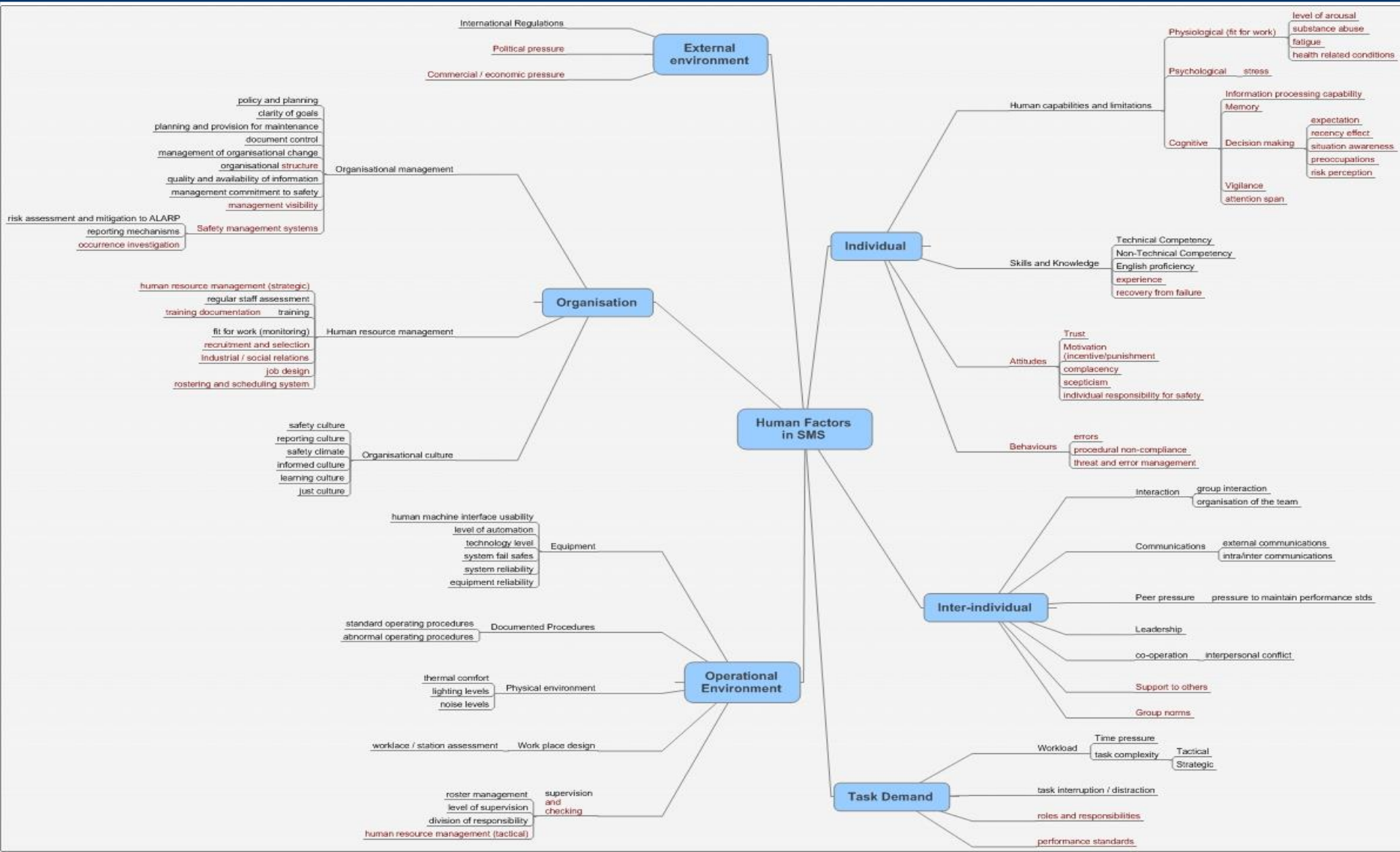
What to survey

A HF Specialist would survey

any aspect of a job
that may impact

Human Performance/Safety

What to survey



What to survey

Individual

Human Capabilities and limitations
Attitudes – Behaviours - Skills

Inter-individual

Interaction - Cooperation - Communication
Support to others - Peer pressure

Task Demand

Workload - Roles and responsibilities
Performance standard - Task interruption

Operational environment

Physical env. - Working methods
Workplace design - Supervision

Organisation

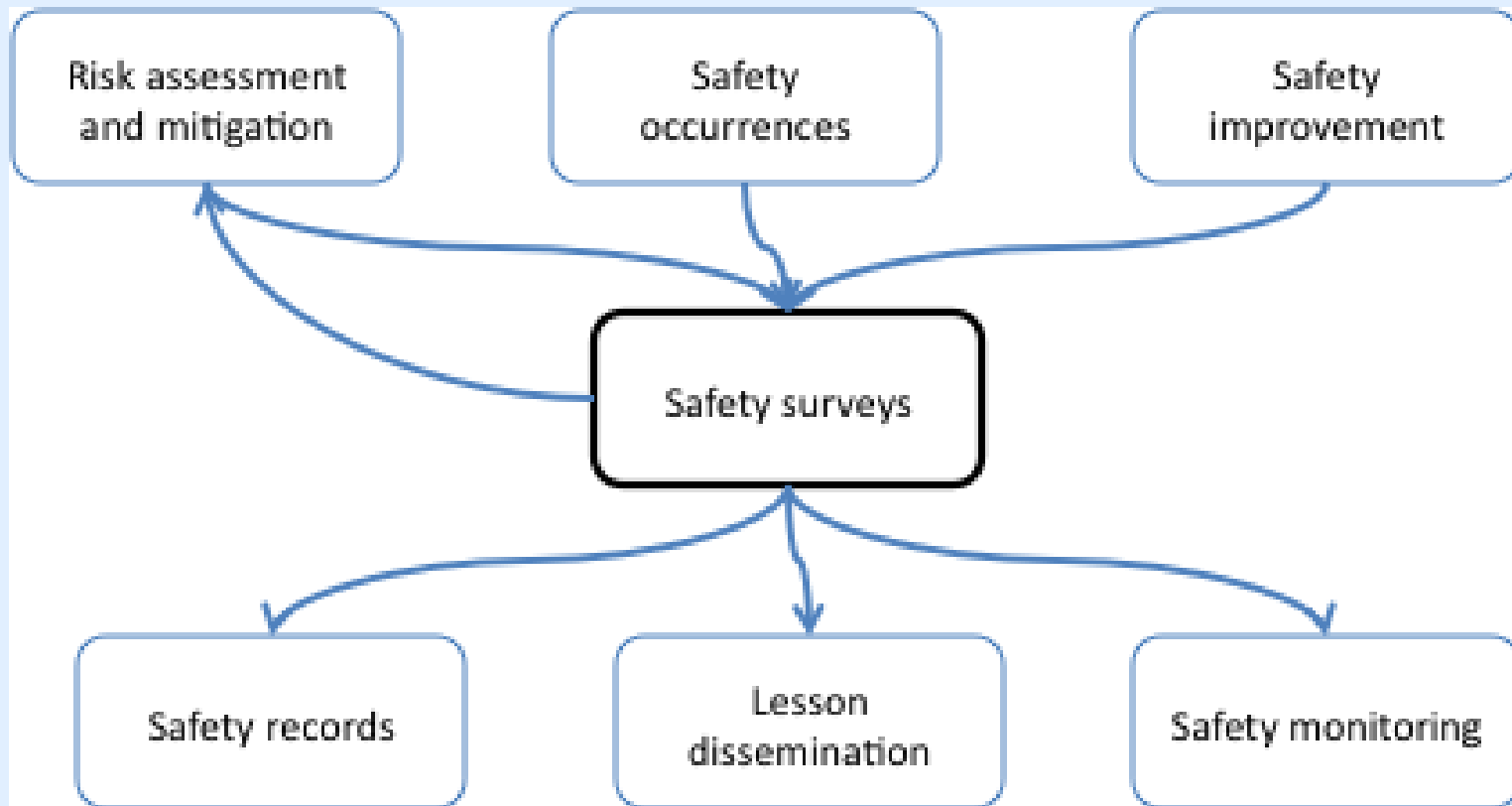
HR Management - Organisational
Management Culture

External Environment

International regulations - Political pressure
Commercial/economical pressure

What to survey

Safety Survey in SMS



What to survey

Where to find survey object?

- Incident investigation
 - Contextual conditions
 - Human contribution to incident
- Volunteering reporting
- Ops room Log book
- Safety Risk assessments

How to survey

HF principles in SMS

1. Place the people at the centre of the system.
2. Adopt a holistic and integrated approach.
3. Take account of social and organisational influences.
4. Account for human variability.
5. **Ensure transparency of organisational processes and actions, and ensure fairness of treatment.**
6. **Involve staff, respect and value their input, and provide feedback.**

How to survey

HF Methods

- Interviews
- Questionnaires
- Observations
- Focus group/workshop

How to survey

Method	Advantage	Disadvantage	Constrains
Interview	<ul style="list-style-type: none">•Can obtain detailed information•Flexible	<ul style="list-style-type: none">•Limited sample•Could be stressful for interviewees	<ul style="list-style-type: none">•Well Trained interviewers•Well prepared content
Questionnaire	<ul style="list-style-type: none">•Obtain a lot of data detailed or generic•Big sample•Easy to pass	<ul style="list-style-type: none">•Time consuming for the preparation•Level of return low	<ul style="list-style-type: none">•Well built questionnaire•Reliable media

How to survey

Method	Advantage	Disadvantage	Constrains
Focus group	<ul style="list-style-type: none"> •Buy-in •Very efficient to cover all facets of a specific subject •Improvements can be tackled on the spot 	<ul style="list-style-type: none"> •Release a group of staff from ops •Some “big mouth” may reduce benefit •Sensitive to cultural aspects 	<ul style="list-style-type: none"> •Well prepared session •Qualified facilitator •Adequate facility and material
Observation	<ul style="list-style-type: none"> •Snapshot of real operation •Allow quantification of informal practice •Detailed data 	<ul style="list-style-type: none"> •Focus only on observable aspects •Intrusion on the task being performed, •Limited sample 	<ul style="list-style-type: none"> •Acceptability •Qualified observers •Qualified analysts

How to survey

Resource demand

Method /Resource	Training	Preparation	Data collection	Analysis	Score
Interview	++	+	++	+++	8
Questionnaire	+++	++	+	+	7
observation	+++	+++	+++	++	11
Focus group	++	+	++	++	7

How to survey

Existing HF Tools

- Observations:
 - NOSS (ICAO), (Normal Operation Safety Survey)
 - Day to day (NATS)
 - EUROSS (MUAC) EUROCONTROL Routine Observation Safety Survey
 - BOOM (EUROCONTROL) (Behavioral Oriented Observation Method)

- Focus group/workshop: TRM

How to survey

A few tips

→ Interview

- **PREPARE, PREPARE, PREPARE,**
- Make sure the interview will not be interrupted
- Clearly explain the purpose of the interview and what will be done with the results
- Take your time to make the interviewee at ease
- Stick as much as possible to your interview structure
- Keep in control
- Never express your opinion

How to survey

A few tips

→ Questionnaire preparation

- Clearly define the aim of the questionnaire
- Clearly Identify who are the respondents
- Interview a few persons on your subject before developing the questionnaire
- Decide how the data will be analysed beforehand
- Pre-test your questionnaire

How to survey

A few tips

→ Questionnaire

- Give information about the purpose of the survey, How the data will analysed and what will be done with the results
- Provide instruction on how to answer
- Ask only relevant questions concerning the person profile
- Prefer close questions (easier to analyse)
- Use the appropriate wording, simple but specific questions
- Give a logical structure/flow
- Start with easier questions
- Address important items at the beginning

How to survey

A few tips

- Focus group - preparation
 - Clearly know what you want to achieve
 - Choose the right participants (8-12) based on their profile, ensure good sampling
 - Define the process step by step
 - Make sure people will stay for the whole exercise
 - Inform participants before the event