



IAEA

60 Years

Atoms for Peace and Development

Overview of safety culture self-assessment methods

Types of safety culture assessments

- Self-assessment
- Independent/external assessment
- Mix of independent and internal assessment
- Meta analysis

Safety Standard GS-G-3.5:

Assessment of safety culture

*Safety culture **self-assessment** should:*

- Include the **entire** organization
- **Several** different self-assessment **tools** should be used (e.g. interviews, focus groups, questionnaires, observations and document reviews)
- A designated **team** representing all organizational levels and functions at the installation should carry out the self-assessment
- A **specialist** in safety culture should be included in the team
- The self-assessment team should receive **training**
- The self-assessment team should summarize the results and identify **areas for improvement** and may suggest **actions** to be taken
- The results should be **reported** to the management at an appropriate level
- A **follow-up assessment** should be performed

The **independent** assessment of safety culture should follow a **similar approach**

Safety Standard GS-G-3.5: Assessment of safety culture

*Safety culture **independent** assessment should:*

The independent assessment of safety culture should follow a similar approach as self-assessment

- The **independence** and **qualification** of the members of the assessment team should be considered **crucial** for the success of the assessment
- The **team** should be staffed with sufficient **diversity** of experience and should include **specialists in behavioural science**, with knowledge of statistical methods of analysis
- The independent assessment team should aim at **identifying strengths** and **areas for improvement**

Basis of IAEA methodology

Based on:

- IAEA Safety Standards
- Behavioural and Social sciences
- Past experiences

Safety culture – multi-disciplinary expertise



- Anthropology
- Organizational theory
- Social Psychology
- Sociology
- Leadership and management theory
- Cognitive science
- Psychology
- Human Factor Engineering
- Resilience Engineering
- Organizational Factors
- ITO (interaction between Individuals, Technology and Organizations)
- Basic knowledge; Nuclear technology, nuclear organizations, regulatory framework

Assessment methods

- Observation
- Survey
- Document review
- Interview
- Focus group



Observations

What is an observation?

- Naturally occurring behaviour in real time
- Visible manifestations of cultures:
 - Interactions between people including, emotional tone and impacts on behaviours
 - outcomes of interactions, decisions, or task performance
 - use of tools, procedures and other relevant means of work
 - context - work conditions, material condition

Why observations?

- What you see is factual – whether it should have happened or not!
- Make the meaning or importance of relationships, symbols, and other artefacts understandable



Surveys

Why surveys?

- To capture attitudes and perceptions of a large population
- To make sure that everyone in a organization has had an opportunity to make his/her voice heard
- To be able to track changes over time
- The survey itself is a message – 'we care about your view'!
- Data can be processed statistically to identify differences between groups (e.g. functional groups or hierarchical levels)

Disadvantages of surveys

- It is resource-intensive to plan, distribute, analyse and communicate survey results
- Surveys identify symptoms rather than causes
- The information collected is about what employees think they think – this is not the same as how they really act!
- Surveys are subject to response bias, e.g. respondents may feel that they should respond in certain ways
- Questionnaires say more about what the person asking questions thinks is important than what the respondent feels is important!

IAEAs Questionnaire



Atoms for Peace

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Agence internationale de l'énergie atomique
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Version 10

Please read the following before you fill out the questionnaire

INSTRUCTIONS

1. Do not put your name on any part of this questionnaire
2. Answer all the questions as completely and honestly as possible. If you are not comfortable answering a question, leave it blank and move onto the next question.
3. Place your survey in the drop box or pass it to the person facilitating your session when you are finished

Please Note:

Your individual answers will be kept confidential to the research team, your participation is voluntary and you can withdraw from the study at any point up until you submit your survey (see information sheet for specific instructions).

If you have any questions please ask the person who is coordinating your session. You can also contact Dr. Fleming at +1 902-420-5273, or at mark.fleming@smu.ca

Thank you for your participation!

IAEA safety culture survey

- Based on IAEA safety culture framework (characteristics and attributes)
- Collaboration with St. Marys University, Canada
- Database to study global tendencies
 - Anonymous participation



Document Review

Why document review?

- Documents communicate management values and expectations
- Reveal approaches/beliefs related to ensuring compliance, e.g. how positional power authority is distributed, degree of formality, approaches to corrective actions, etc.
- May reveal actual work practices, e.g. event reports

Which internal documents?

- Annual reports
- Policies, objectives and short term and long term plans
- Performance indicators
- Key management system processes and procedures
- Inspection reports
- Event investigation reports
- Training records
- Reward and recognition programmes
- Overtime policy and statistics
- Licensing documents
- Results from previous internal audits and assessments
- Minutes of meetings

Which external documents?

- IAEA missions
- Peer review reports
- External regulatory experience

Remember – sample of documents to gain insights not exhaustive review!



Interviews

Interviews

- A conversation that tries to capture the respondents' point of view
- Flexible data gathering method – varying degrees of structuration
- Gain access to organizational stories
- Learn how people make meaning of situations/events

Why interviews?

- Interviews provide in-depth knowledge on specific topics and areas of interest
- They make it possible for employees to make their voice heard in a form not constricted by the rigidity of e.g. a questionnaire
- Interviews are a powerful tool, but they require trust, confidence and interviewer skills

Advantages of interviews

- Flexible data gathering method – varying degrees of structuration
- Gain access to organizational stories
- Learn how people make meaning of situations/events



Focus Groups

Why focus groups?

- The purpose of focus groups is to develop a broad and deep understanding rather than a quantitative summary.
- Focus groups are a highly effective method for listening to others' views.

Why focus groups (cont'd)

- Draw out attitudes, feelings, beliefs, experiences and reactions in a way that is not feasible using other methods
- These attitudes, feelings and beliefs may be partially independent of a group or its social setting, but are more likely to be revealed via interaction in a focus group setting.
- Elicit a multiplicity of views and emotional processes within a group context.

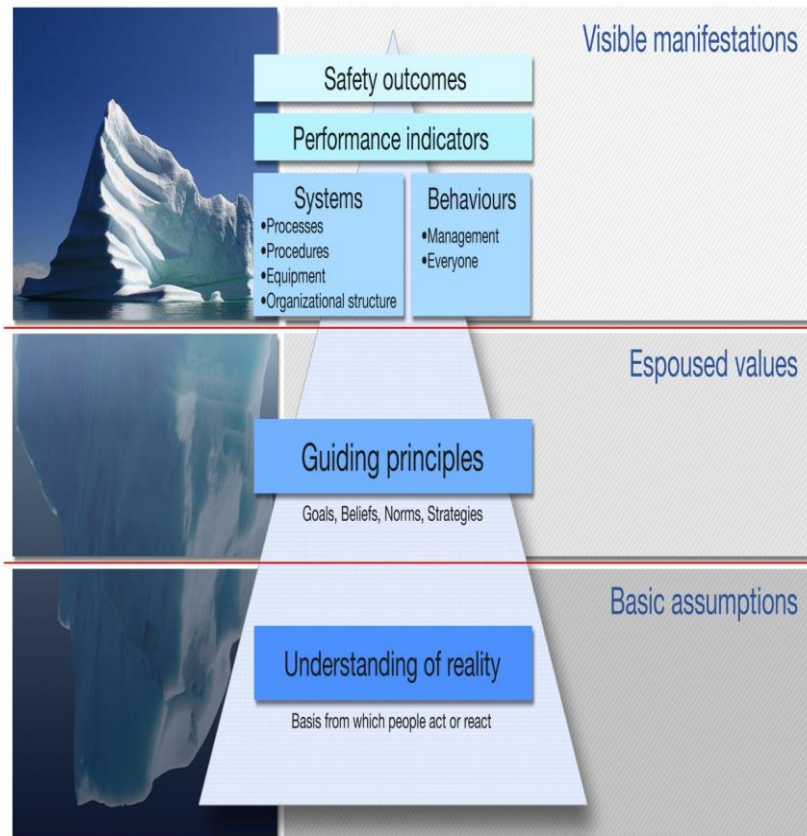
Advantage of focus groups

- Particularly useful when:
 - there are power differences between the participants and decision-makers or professionals,
 - when the everyday use of language and culture of particular groups is of interest, and
 - when one wants to explore the degree of consensus on a given topic
- Good example of how to create shared space
- Focus groups are also an important tool when facilitating the change process

Overall characteristics of SCSA method

- Multiple-methods approach
- Explorative, open approach
- Raw material for interpretation
- Data in itself say little about culture (tip of the iceberg)

Back to 'culture'

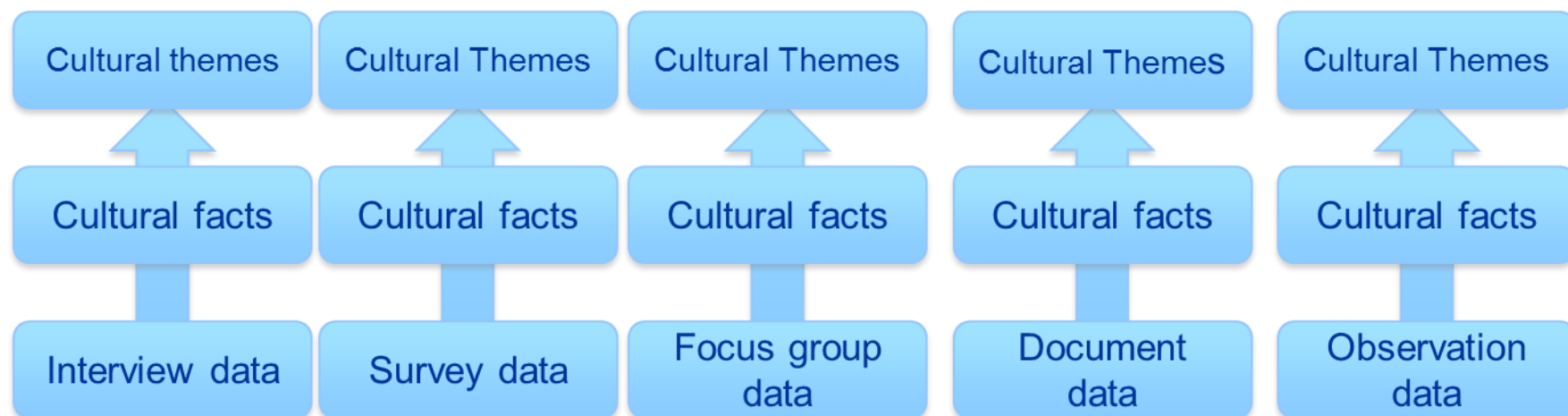


How do we move from
observations
above the surface...

to images of what the
culture is like,
under the surface?

Descriptive analysis

Descriptive analysis: Images of culture



Descriptive/normative

Descriptive

‘is’

Based on data and a
theory of culture

Normative

‘should’

Based on data, a theory
of culture *and a norm*

***Descriptive must come
before the normative!***

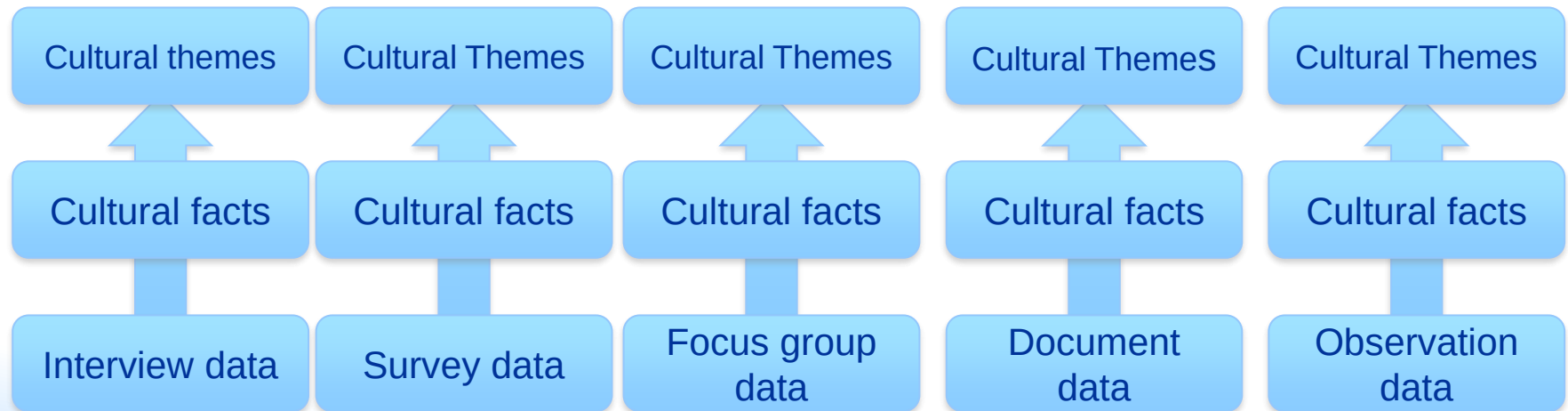
Normative analysis



Normative,
evaluative analysis



Descriptive Analysis: Images of culture



What 'is' and what 'should be'



Concurrent assessment process



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- Performed in *silos* – each assessment method treated separately
- To ensure rigour in collecting the data, formulating the themes, and the analyses



Summary

- SCSA uses *several* data gathering methods
- Methods are scientifically validated
- Methodology uses both *quantitative* and *qualitative* methods
- Assessment approach reflects an ‘inquiring attitude’
- Separation of *descriptive* and *normative* analysis helps to distinguish between ‘what is’ and ‘what should be’ to avoid premature conclusions
- When capturing the data, reviewers need to be mindful of personal biases and judgements



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Thank you!

