Safety Culture Working Group
Safety Culture Enablers and Barriers

Eurocontrol Annual Safety R&D Seminar
Friday, 24 October 2008
Overview

• Introduction
• Research Questions
• Methodology
• Summary of Findings
• Examples of Detailed Findings
• Conclusions
• Next Steps
Introduction

- CANSO
- CANSO Safety Culture Workgroup
  - Membership
  - Goal and target
  - Products
- Purpose of Research
  - Develop tools to improve safety culture
  - Link to SMS implementation
  - Support the enhancement of aviation safety worldwide
PROBLEM:

How do we improve Safety Culture?

“I propose that we change our motto from ‘Put Your Best Foot Forward’ to ‘Safety First.’”
Research Questions

What is Important for a Positive Safety Culture?

What are Organizational Barriers?

What are Organizational Enablers?

What do Safety Directors/Managers in CANSO believe are significant barriers and enablers to a positive Safety Culture?

Can we prioritize barriers and enablers to help develop an effective safety culture measurement tool?
Developing Intervention Strategies
Organisational Attributes
- Are believed to be strong predictors of culture
- Positive examples are considered enablers
- Negative examples are considered barriers
- Determine most significant barriers and enablers
- Focus on these areas to develop an effective safety culture measurement survey
Methodology

Survey Development and Process
- Create draft questionnaire based on several examples of organisational attributes (brainstorming, literature search)
- Refine questionnaire for distribution by having Workgroup members take survey
- Distribute survey to CANSO members (target Safety Directors)
- Ask respondents to rate significance of each example as an enabler/barrier.
- Ask respondents for additional barriers/enablers

Analysis
- Determination of Top Barriers and Enablers
- Other conclusions
# Rating Definitions

<table>
<thead>
<tr>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Barely significant enabler/barrier of safety culture</td>
</tr>
<tr>
<td>2</td>
<td>Somewhat significant enabler/barrier of safety culture</td>
</tr>
<tr>
<td>3</td>
<td>Significant enabler/barrier of safety culture</td>
</tr>
<tr>
<td>4</td>
<td>Very significant enabler/barrier of safety culture</td>
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</tbody>
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Summary of Findings

• Response Rates
  • 41 Questionnaires were received
    • 53% of CANSO members responded
    • Received surveys from 27 ANSPs
Summary of Findings

• **Top Enablers**
  - Organisational Communications
  - Clear Lines of Authority and Accountability
  - Balance Technical/Management Skills
  - Trust and Engagement
  - Organisational Emphasis on Safety
  - Organisational Structure
  - Teamwork and Team Building

• **Top Barriers**
  - Trust and Engagement
  - Balance Technical/Management Skills
  - Organisational Communication
  - Organisational Structure
  - Understanding of Safety State
  - Teamwork and Team Building
  - Clear Lines of Authority and Accountability
Summary of Safety Culture Enablers

Summary of Enabler Organizational Attributes

- Clear Lines of Authority and Accountability
- Organizational Communication
- Balance Technical/Management Skills
- Trust and Engagement
- Organizations Emphasis on Safety
- Organizational Structure
- Teamwork and Team Building
- Resources
- Change Management
- Organizational Learning
- Understanding of Safety Stair
- Workforce Competence
- Adaptable
- Diversity in the Workforce

Average Score
Standard Deviation
Summary of Safety Culture Barriers

Summary of Barrier Organizational Attributes

Organizational Attribute

- Trust and Engagement
- Balance Technical/Management Skills
- Organizational Communication
- Organizational Structure
- Understanding of Safety/State
- Teamwork and Team Building
- Clear Lines of Authority and Accountability
- Organizations Emphasis on Safety
- Adaptability
- Change Management
- Resources
- Organizational Learning
- Workforce Competence
- Diversity in the Workforce

Significance

Average Score
- 3.66
- 3.63
- 3.60
- 3.59
- 3.40
- 3.40
- 3.37
- 3.34
- 3.25
- 3.15
- 3.14
- 3.12
- 2.76
- 2.71

Standard Deviation
- 0.62
- 0.66
- 0.58
- 0.76
- 0.80
- 0.74
- 0.79
- 0.69
- 0.84
- 0.83
- 0.87
- 0.84
- 1.09
- 1.19

Average Score and Standard Deviation

- Average Score
- Standard Deviation
Examples of Detailed Findings

**Enabler-mean results: 3.04**

| 6.j | Safety and risk management are integrated into strategic and operational planning. | 93% |
| 6.h | Operational risk management tools and other, similar tools are used prior to implementing changes that could impact safety. | 90% |
| 6.c | Regular and internal audits of safety conditions (such as SMS audits, compliance audits, and training audits) are conducted. | 85% |
| 6.a | Numerical indices of safety performance, both proactive and reactive, are developed. | 78% |
| 6.d | Periodic surveys of safety-related attitudes are conducted throughout the system. | 78% |
| 6.e | The results of internal audits and surveys are visible to both managers and employees. | 78% |
| 6.i | The organisation uses reliable methods to conduct on-going measurement of the effectiveness of their service provision as it relates to safety. | 78% |
| 6.b | The organisation seeks to meet the benchmarks of internal and external safety indices. | 68% |
| 6.g | Special studies and audits are integrated with periodic audits and used as a crosscheck. | 61% |
| 6.f | Regular assessments are conducted by external organisations to validate or correct the internal ones. | 46% |

**Barrier-mean results: 3.40**

| 6.b | Declines in safety go unnoticed. | 98% |
| 6.c | Management decisions are not evaluated to determine their impact on safety performance. | 93% |
| 6.f | Operational risk management is conducted reactively or not at all. | 93% |
| 6.a | Management is unable to determine the current state of safety. | 88% |
| 6.g | There are no means for monitoring changes; it is assumed that implemented changes will perform as expected vis-à-vis safety. | 88% |
| 6.e | Operational risk management is haphazardly applied. | 85% |
| 6.d | Safety-related audits, surveys, and/or assessments are conducted on an irregular basis or not at all. | 83% |

- **Understanding of Safety State**
- **Results for each question**
- **Surprises/Points of Interest**
  - **Enabler 6f:** Regular assessments conducted by external organisations were only considered to be a somewhat significant enabler of safety culture.
Summary of Findings

- **Surprises/Points of Interest**
  - Organizational Emphasis on Safety seen as a top enabler and yet not as a top barrier.
  - Lowest ranked attributes were mostly accompanied with the highest standard deviation.
    - In other words, for low ranking items, there was less agreement over the attributes that contribute to a positive safety culture.
  - The reason is unknown
    - The work group will have to consider these uneven responses.
  - Survey Tool = Educational Tool
More Research Needed

• Other Comments
  • ENABLER
    • Interest: CEO takes genuine interest and shows leadership about being serious about safety.
    • Additional Topics to Considered: Degree of an applicant's attitude towards a good Safety Culture is a recruitment issue; a Competence Management System exists to make use of safety related experience knowledge across the organisation.
  • BARRIER
    • Alpha Male Behaviour: The informal hierarchy is strong and depends on informal leaders playing down others. Group dynamics prevail and the informal leader feels supported to continue his behaviour.
    • Legal and Social Framework: If the legal and social system apportions blame this can be highly disruptive to a learning safety culture.
Conclusions

• Broad agreement that these are barriers/enablers
  • Barriers tended to have slightly higher significance ratings than enablers

• Top Enablers and Barriers
  • Support current program efforts
    • Non-punitive reporting systems
    • Safety hazard reporting
  • Show important role of management
    • Management is the key to success within an organization
Next Steps

- Safety Culture Maturity Matrix Development
- Safety Culture Survey Development and Guidance
- Identify Best Practices and Lessons Learned
“Peoples attitudes and opinions have been formed over the decades of life and cannot be changed by having a few meetings or giving a few lectures”

Mao Tse Tung