Improving Safety Culture:
Barriers, Challenges and Potential Solutions

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Agenda

• What is Safety Culture?
• A Safety Culture Observed!
• Characteristics of organizations with a healthy Safety Culture
• Safety Culture’s impact on Safety Performance - A broader perspective
• Barriers and Challenges
• Potential Solutions
What is Safety Culture?

- Multitude of definitions
- No real consensus  *(Guldenmund, 2000)*
What is Safety Culture?

• The product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, the style and proficiency of an organization’s health and safety management.

*(Health & Safety Executive, UK, 1993)*
What is Safety Culture?

- The values, attitudes, motivations and knowledge that affect the extent to which safety is emphasized over competing goals in decisions and behavior.

(Barnes, 2009)
What is Safety Culture?

For our discussion:

A healthy Safety Culture consists of shared beliefs, sound philosophy, healthy attitudes and practices.
A Safety Culture Observed

Cape Peninsula University
A Safety Culture Observed

Career started in 1989 – Transnet (Risk Professional)
A Safety Culture Observed
Electrification North vs South
## A Safety Culture Observed

### 2 Electrification Depots

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<tr>
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<th>Electrification North</th>
<th>Electrification South</th>
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<tr>
<td>Maintenance on High Voltage Power lines and equipment</td>
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<td>Employees 95</td>
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<td>Employees 97</td>
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Big Question!

Why the difference in Safety Performance?

Observed the 2 depots over a period of 12 years
North vs South

Department Head

- Reaction to accidents - personally involved with investigations
- Holding people accountable
- Red in the face, slamming fist on the table; very passionate
North vs South

Supervisors

• More knowledgeable about OHS regulatory requirements
• More discussions about OHS (not only at the JHSC meetings, but during regular work)
• Gave workers autonomy (trusted their judgement) to deal with hazards
• Compassion shown when accidents happened
• Open door
North vs South

Workers

• More involved in risk assessment process
• Keen to participate on JHSC (higher participation rates)
• Higher usage of OHS suggestion box
• Spoke about safety issues during lunch brakes, around water cooler etc.
North vs South

Risk Awareness
• Almost everybody understood and knew risk rating
• 90% compliance in hazards awareness training
• Knew consequences (exposure impact on health or safety, cost complications etc.)
North vs South

Compliance
- More regular observations and record keeping
- Lower non-compliance ratings
- On the spot coaching of non-compliance
- Peer accountability
North vs South

Trust and Workplace Morale

• Managers willing to role up their sleeves
• Supervisors seen as coaches/friends
• Respect – 2 way apparent (not “us” and “them”)
The Answer to that Big Question:

A Healthy Safety Culture!
Characteristics of organizations with a Healthy Safety Culture

- Management commitment, leadership, involvement
- Strong communication channels (vertical and horizontal)
- Promotion of near miss reporting
- Hazard Awareness, good housekeeping
- Mature stable workforce
- Good personnel selection, job placement and promotional procedures
- Well trained and educated workforce
- Extensive Orientation program

(Cooper, 1998)
Safety Culture’s impact on Safety Performance - A broader perspective

Noted as a major contributing factor in notable disasters
• 1986 – Chernobyl
• Continental Express Flight 2574

(Meshkati, 1997)

• Reduced job-site incidents after a cultural intervention program in the Netherlands’ concrete industry.

(Oh & Sol, 2008)

• Safety culture was associated with safety performance at the corporate level. This association was positive, showing that a more favourable safety culture was associated with improved safety performance.

(Smith & Wadsworth, 2009)
Safety Culture’s impact on Safety Performance
- A broader perspective, cont...

• Corporate safety culture has gradually become a primary safety performance indicator.
  
  (Reiman & Pietikeinen, 2010)

• Recent study of major 15 major petrochemical accidents (between 1980-2010) noted that poor safety culture contributed to 12 of the 15 accidents.

  (Fleming & Scott, 2012)
New Questions:

• If safety culture has such an impact on safety performance, why do we not see efforts to improve it more frequently?

• Why is it not more visible in organizational safety management systems/efforts?

• What are the barriers and challenges?
Barriers and Challenges
Barriers and Challenges

- Definition and Concept
- Employers’ ignorance
- Myriad of influencing/reciprocal factors
  - Person (internal psychological factors)
  - Situation (organizational factors)
  - Behavior (safety behaviour)

(Cooper, 2002)

- No external drivers
- Measurement - complex and difficult
- Big Challenge - Believe that it can be changed?
Barriers and Challenges

Definition and Concept

• No clear understanding
• Difficult Concept – (Cooper, 2002)

“If you don't know where you are going, you'll end up someplace else.”
— Yogi Berra
Barriers and Challenges

Employers’ Ignorance

• Don’t know what they don’t know!
• Accidents simply a part of doing business..... WCB right?
• Safety Performance – what?
• Safety Culture is not even in the picture!
Barriers and Challenges

Myriad of influencing/reciprocal factors

- Person (internal psychological factors) – to name a few:
  - Personal Commitment
  - Perceived Risk
  - Competencies
  - Safety Knowledge
  - Job satisfaction

(Cooper & Phillips, 1995)

Figure 2: Reciprocal Safety Culture Model
Barriers and Challenges

Myriad of influencing/reciprocal factors

• Situation (organizational factors) – to name a few:
  • Management commitment
  • Leadership
  • Policy & Procedures
  • Effective Communication
  • Adequate Resources
  • Emergency preparedness
  • Status of Safety Personnel
Barriers and Challenges

Myriad of influencing/reciprocal factors

• Behavior (safety behaviour) – to name a few:
  • Work environment
  • Work patterns
  • Risk Assessments
  • Standard operating procedures
  • Involvement in decision making
  • Housekeeping
Barriers and Challenges

Measurement

• Difficult, skills, time consuming
• Measurement tools only recently been developed!
• Absence of objective safety culture indicators (*Fleming*, 2006)
• 3 Different kinds of measurement mechanism required (Survey, Behaviour Sampling and Auditing)
• Need to appropriately weigh all 3 factors (person, behaviour, situation)
• Expensive – 10’s or even 100’s thousands dollars!
• Trust in measurement results?
No External Drivers

• Not really able to legislate...

• Not a specific requirement of most national/international SMS standards:
  • OHSAS 18001
  • CSA Z1000
  • Most COR programs
  • ISRS (DNV)
  • NOSA 5 Star System
Barriers and Challenges

Big Challenge!!

• Believe that it can be changed?
• Can and will probably take several years to change; appetite to change?
• Is it worth the effort?
• Long term commitment?
Potential Solutions
Potential Solutions

OHS Agency/Authorities/WCB Perspective

• Establish an inter/national body for the Advancement of Workplace Safety Culture.

• Develop an inter/national standard similar to the “National Standard of Canada for Psychological Health and Safety in the Workplace - Z1003”

• Incorporate safety culture as a specific element in Safety Management System audit standards (OHSAS 18000, COR....)

• Further research to develop less expensive/intrusive measurement techniques.
Potential Solutions

Employers’ Perspective

A bit of reverse engineering...

Learn from organizations with an existing healthy safety culture - focus on:

- Improve Leadership, Management Commitment
- Increase Involvement levels throughout the organization (positive OHS promotional strategies)
- Improve OHS Communication
- Encourage near miss reporting
- Focus on Hazard Awareness
Potential Solutions

Employers' Perspective, cont...

A bit of reverse engineering....

*Learn from organizations with a healthy safety culture - focus on:*

- Ensure good housekeeping
- Stable workforce – good personnel selection, job placement and promotional procedures
- Top notch OHS training
- Comprehensive OHS Orientation
Potential Solutions

Employers’ Perspective, cont...

Expand your OHS Management System

- Address Safety Culture specifically (element)
- Have measurement criteria, targets & goals
- Identify specific *focused* action plans, based on weaknesses
- Part of audit/management review continuous improvement regime

Take deliberate action

- Develop a long term strategy *(next session)*
References & Suggested Reading

- **Fleming, M. & Scott, N** - “Cultural disasters: Learning from yesterday to be safe tomorrow Oil and Gas Facilities,” 2012
- **Hewitt, Mike** – “Relative Culture Strength – A Key to Sustainable World Class Safety Performance,” Du Pont, 2009
References & Suggested Reading

- Marc Fleming - Developing Safety Culture Measurement Tools and Techniques based on Site Audits rather than Questionnaires, St Mary’s University, 2006
- Meshkati, N - Human Performance, organizational factors and safety culture, 1992
Web references

• **National Energy Board** - Advancing Safety in the Oil and Gas Industry - Statement on Safety Culture:
  https://www.neb-one.gc.ca/sftnvrnmnt/sft/sftycltr/index-eng.html

• **OSHA** – Creating a Safety Culture:

• **International Nuclear Safety Advisory Group** - Safety Culture Resources:
  http://nuclearsafety.info/safety-culture/

• **First International Safety Culture Symposium (2014):**
  http://www.safetyculturesymposium.ca/