SAFETY CULTURE & LEADERSHIP IMPROVEMENT

MODERN DAY ALCHEMY

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Outline

➢ **Introduction and overview**

➢ **Safety culture and leadership report for IRF (funded by CNSOPB & CNLOPB)**

➢ **Integrated model of safety culture**

➢ **Results of public reports into offshore disasters**

➢ **Recommendations**

➢ *i SCIN*

Lessons not learned!

- ➤ **The deepwater horizon disaster occurred 20 years after the Cullen report was published**
- ➤ **My immediate reaction to the deepwater report was "did we learn nothing!"**
- ➤ **On reflection I think learning is influenced by:**
  - **Proximity to the disaster both in time and space**
  - **Codifying lessons into new practices/ regulations**
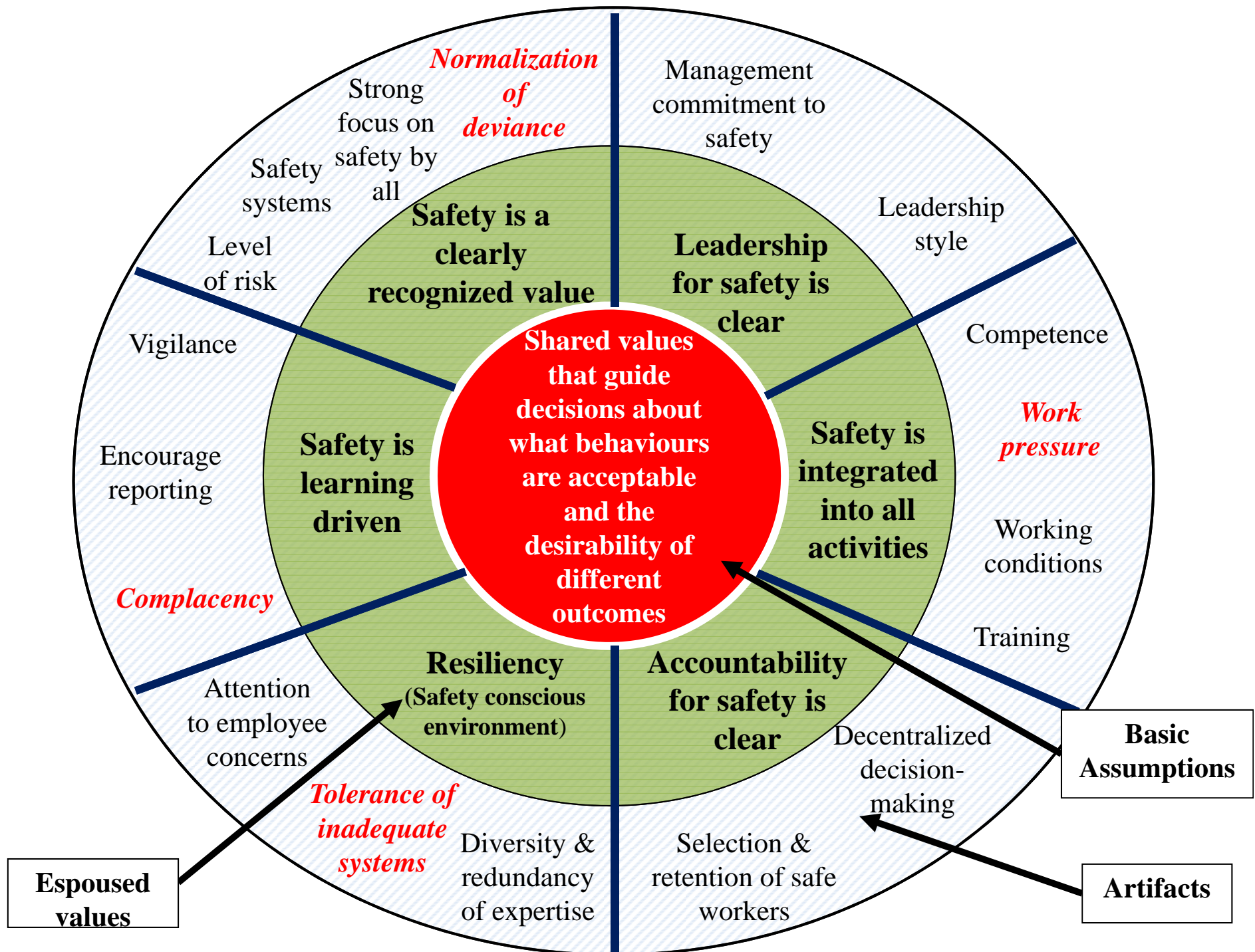
Organisational Failure

➢ **Failures occur, even though organisations have adopted of a full range of engineering and management systems,**

➢ **These complex systems break down because the people running them failed to do what they were supposed to**

➢ **They are not due to simple individual errors but malpractices that corrupt the social system that make the organisation function**

➢ **Blaming "human error" and hoping that a cure can be found for these random frailties is unlikely to work**

Lee (1998)

Objectives of review

- ➢ theory underpinning safety culture,

- ➢ main components of safety culture,

- ➢ attributes of a positive safety culture,

- ➢ relationship between culture and leadership,

- ➢ evidence of a relationship between safety culture and safety outcomes,

- ➢ ways to assess or measure safety culture,

- ➢ potential ways that the regulator might influence the safety culture on installations within their jurisdiction.

Safety Culture Definition

"**Safety culture is the product of individual and group values, attitudes, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of an organization's health and safety programmes.**" **(Advisory Committee for Safety in Nuclear Installations, 1993; p. 23)**

Center: Shared values that guide decisions about what behaviours are acceptable and the desirability of different outcomes

Inner ring (green):
- Safety is a clearly recognized value
- Leadership for safety is clear
- Safety is integrated into all activities
- Accountability for safety is clear
- Resiliency (Safety conscious environment)
- Safety is learning driven

Outer ring labels:
- Management commitment to safety
- Leadership style
- Competence
- *Work pressure*
- Working conditions
- Training
- Decentralized decision-making
- Selection & retention of safe workers
- Diversity & redundancy of expertise
- *Tolerance of inadequate systems*
- Attention to employee concerns
- *Complacency*
- Encourage reporting
- Vigilance
- Level of risk
- Safety systems
- Strong focus on safety by all
- *Normalization of deviance*

Callout boxes:
- **Espoused values**
- **Basic Assumptions**
- **Artifacts**

Safety is a clearly recognised value

- ➢ **It is clear to everyone that safety is the top priority.**
- ➢ **The importance of safety is demonstrated by**
  - – **the decisions managers make and**
  - – **how managers allocate resources.**

Leadership for safety is clear

➢ **Managers take every opportunity to demonstrate their commitment to safety.**

➢ **Leaders across the organization are actively involved in safety and act as role models for others.**

➢ **Leadership skills are actively developed**

Safety is integrated into everything

➢ **Safety is an approach to doing things rather than an activity; therefore it is part of all activities.**

➢ **An operation or task is only a success if completed safely.**

➢ **Factors that influence performance such as motivation are acknowledged to influence safety outcomes**

Accountability for safety is clear

- ➢ **There are clear lines of authority for safety**

- ➢ **Everyone is aware of their specific tasks and responsibilities.**

- ➢ **Everyone feels ownership for safety within their span of control.**

- ➢ **The independent and distinct role of the regulator is understood and respected.**

Safety is learning driven

➤ **Striving for continuous improvement.**

➤ **Learning drives improvement.**

➤ **Actively seeking out lessons from operational experience and conducting self assessments.**

➤ **Seeking to understand both failure and success in order to improve.**

➤ **Encouraging reporting all failures**

Resilience

➢ **In a positive safety culture, employees are encouraged to develop a questioning attitude.**

➢ **Employees are supported and rewarded for raising safety concerns or challenging management decisions**

➢ **Diverse workforce**

➢ **Teams contain team members with different backgrounds and skills**

Safety culture and disasters

➢ **Reviewed 17 offshore disasters to identify cultural causal factors**

➢ **14 disasters contained cultural causes**

– **Tolerance of inadequate systems and resources (identified 10 times)**

– **Normalization of deviance, (identified 9 times)**

– **Complacency, (identified 8 times)**

– **Work pressure/ cost (identified 4 times)**

Tolerance of inadequate systems

➢ **Some crew members had dubbed Macondo well "the well from hell."**

➢ **"this has been [a] nightmare well which has everyone all over the place"**

➢ **Wheeler (toolpusher) was "convinced that something wasn't right," . Wheeler couldn't believe the explanations he was hearing. But his shift was up.**

Complacency

➢ **The Transocean managers discussed with their BP counterparts the backlog of rig maintenance. A September 2009 BP safety audit had produced a 30-page list of 390 items requiring 3,545 man-hours of work.**

Work/cost pressure

➤ **BP's original designs had called for 16 or more centralizers to be placed along the long string. But on April 1, team member Brian Morel learned that BP's supplier (Weatherford) had in stock only six "subs.**

➤ **Even after modeling raises concerns about using only 6 increased risk and that in fact 21 were required. Only 6 were used.**

Normalization of deviance

➢ **But, who cares, it's done, end of story, [we] will probably be fine and we'll get a good cement job. I would rather have to squeeze [remediate the cement job] than get stuck above the WH [wellhead]. So Guide is right on the risk/reward equation**

Recommendations

➢ **Offshore regulators should:**

- *adopt a common safety culture definition and conceptual framework*

- *agree on the attributes of a positive safety culture*

- *develop guidance on safety culture self assessment methodologies*

- *should hold annual meetings to share experience in promoting a positive safety culture.*

Recommendations

- **Offshore regulators should:**

  - *conduct a review of how offshore regulators and other similar bodies (e.g., nuclear regulators, healthcare) influence safety culture.*

  - *develop a safety culture inspection toolkit (including guidance on use) and training material for inspectors.*

  - *develop guidance on safety culture improvement strategies.*

International Safety Culture Improvement Network

- **Cross-industry collaborative (offshore, nuclear, construction and healthcare)**
  - Create a repository of safety culture documents
  - Capture best practice
  - Develop safety culture metrics
- **If interested in joining then send me an email**

Where alchemists went wrong

- ➢ **Alchemy was an applied science rather than philosophical**
- ➢ **Alchemists were not critical of their own theories**
- ➢ **They interpreted their data to fit with their theories**
- ➢ **It was difficult to disprove some of their theories**

Modern day alchemy?

Similarities

➢ **Importance of safety culture accepted without question**

➢ **Poorly defined**

➢ **Difficult to test causal relationship between culture and disaster**

➢ **Applied vs academic**

Differences

➢ **Much of the research is subject to peer review**

➢ **Evidence supporting parts of the causal relationship**

➢ **Research using different frameworks reaching similar conclusions (e.g. HRO's)**

What can we learn from Alchemy?

➢ **Do not accept the importance of safety culture as a given, but based on the evidence**

➢ **If new evidence emerges then be willing to change**

➢ **Continue to examine causal relationship between culture and outcomes**

➢ **Even if current theories are wrong we have identified an important dimension of safety**

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Conclusions

➢ **We need to be more critical about safety culture**

➢ **Regulators have an important role in promoting a positive safety culture**

➢ **Our understanding of safety culture is changing quickly**

➢ **The offshore industry can learn from other domains**

It won't happen to me....

When anyone asks me how I can best describe my experiences of nearly forty years at sea, I merely say uneventful. I have never been in an accident of any sort worth speaking about....I never saw a wreck and have never been wrecked, nor was I ever in any predicament that threatened to end in disaster of any sort."

Edward J. Smith
(Captain of the Titanic)

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