



lloydmasters Safety culture survey 2015

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lloydmasters
the alternative consultancy

Executive summary

A number of different companies recently participated in the lloydmasters safety culture survey. The objective of the survey was to help those organisations understand their safety culture when compared to other high hazard industry sectors such as transport, shipping, construction, manufacturing and oil/gas.

This detailed report summarises the key findings from our analysis. Specifically it covers:

- The characteristics of a robust safety culture
- Detailed survey trends across sectors
- Learnings from major incidents/accidents
- Tools for leaders to develop a strong safety culture

The analysis reveals that across all organisations and industries:

- There is a long way to go before a truly robust safety culture is in place
- Financial and reputational consequences can be extremely severe
- Safety culture is often neglected because it challenges underlying assumptions and beliefs
- Leaders need to understand the impact and limitations of their safety culture and learn how to intervene effectively to change and strengthen it

A key insight gained from our work with clients in high risk industries is that if mantras such as 'no accidents', 'zero harm' and 'injury free' are to become more than a well-intended aspiration, then the lessons learned from major accidents need to be applied.

Introduction

The term 'safety culture' was introduced by the International Atomic Energy Agency as a result of their first analysis into the nuclear reactor accident at Chernobyl. The safety culture of an organisation reflects unconsciously adopted norms, beliefs and expectations. It's 'the way we do things around here'. These norms show themselves as deeply ingrained routines and influence what information and knowledge people pay attention to and ultimately accept. People behave according to the 'unwritten rules' that shape the culture.

Cultural factors take a long time to develop and are slow to change. The first step in making a change is recognising the current state. Results were taken from all those surveyed to produce detailed survey trends and average scores. Of course, these results are likely to be based only on an individual's perceptions of culture within their own organisation.



Characteristics of a robust safety culture

Safety culture has been identified as a critical root cause in numerous catastrophic industrial accidents. This survey builds on extensive existing research, led by the oil and gas industry and key research groups at Leiden and Manchester Universities, and individual thought leaders such as James Reason, Edgar Schein and Professor Andrew Hopkins. There is a bibliography of books, articles and websites at the back of this report.

There are 5 key inter-related characteristics of a robust safety culture:

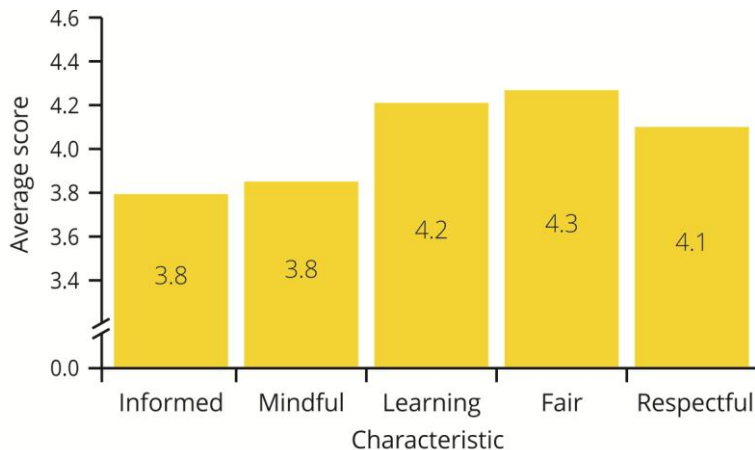
1. **Informed:** There is effective 2-way communication. Management really listens to the workforce and knows what is going on. Information is shared and everyone freely reports errors and near-misses.
2. **Mindful:** There is wariness about the possibilities of failures. Everyone is pro-active in thinking about what might go wrong and putting steps in place to prevent the possibility of accidents.
3. **Learning:** Effective training builds competence and supports effective communication. Lessons learnt are inherently developed and adopted from both internal and external incidents.
4. **Fair:** People know and agree the difference between acceptable and unacceptable behaviour. Blame is reserved for truly inappropriate behaviour. People are aware of the consequences of their actions and are treated fairly and consistently.
5. **Respectful:** People are treated with respect and their ideas are sought out and considered. People are listened to, whatever their position or level.



Detailed survey trends

Respondents completed randomised questions in which they rated their safety culture from 1 to 6 (low to high). These questions were then collated under the 5 safety culture characteristics to give an average score for each and an indication of overall strengths and weaknesses.

Average score by characteristic



Informed was the characteristic of safety culture that people judged themselves to be weakest on, with an average score of 3.8.

This was driven by responses to the following questions which scored an average of 3.4 each (out of a potential 6):

- *There is good two-way communication both up and down our organization*
- *Management really listens to the workforce and knows what is going on*

Mindful was also perceived to be a weak overall characteristic, with an average score of 3.8.

Responses to the question:

- *Everyone pro-actively thinks about what might go wrong* only scored an average of 3.2 which was a key factor in driving the low overall average

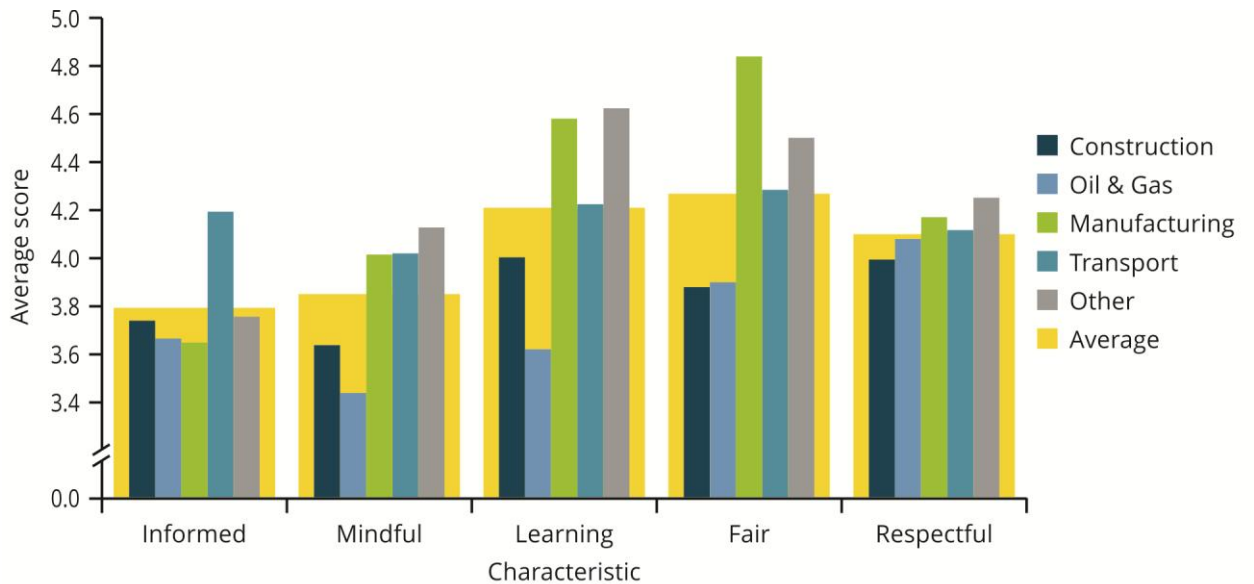
Fair was judged to be the strongest characteristic of safety culture, with an average score of 4.3. This was driven by the following highest scoring (4.5) individual question:

- *People know and agree on the difference between acceptable and unacceptable behaviour*

Comparison across industries

The survey focused on the high hazard industries of construction, oil & gas, transport and manufacturing with a number of responses from other industries. There are a few thought provoking differences amongst the groups.

Average score characteristic by industry



Construction and transport rated **mindful** as the weakest aspect of their safety culture, whereas manufacturing organisations rated **informed** as their weakest area.

On the cultural strengths, manufacturing and transport rated **fair** as their highest characteristic overall. In comparison oil & gas industries rated **respectful** as their highest overall characteristics, whilst construction and others rated **learning** as their highest.

Interestingly, on most characteristics the manufacturing organisations rated themselves as higher or equal in comparison to other industry groups, it was only **informed** where they rated in the pack.

Scoring is however subjective and therefore absolute scores do not necessarily translate into a reflection of the real strengths and weaknesses across industries in practice.

We also asked for companies most admired for their approach to safety and the responses given were:

Companies most admired



Finally, we asked each respondent to use three words to describe their organisations' current safety culture. The 'word cloud' below shows these responses; the more prominent the word, the more frequently it appeared in the responses.

The word cloud



Where safety culture has failed

There are many examples of where safety culture has failed, resulting in catastrophic consequences.

NASA Challenger

In January 1986, NASA flight 51-L was destroyed in an explosion just after take-off, as a result of the failure of the O-ring seal.

Over multiple launches, NASA had accepted a lower standard of performance on the solid rocket booster O-rings until that lower standard became the norm. By the launch of Challenger, NASA had inadvertently adopted a norm of 'prove unsafe', a blind spot reflecting a lack of **mindfulness** of both what could go wrong and of the deterioration of a key norm or standard in the flight readiness review process.

It was not an **informed** culture – decision makers were unaware of the initial written recommendation of the contractor advising against the launch at temperatures below 530F. The culture was not **respectful** – senior management of both NASA and the contractor Morton Thiokol were dismissive of the concerns of the engineers.

Tragically even after this incident, NASA's culture did not support **learning** from previous incidents, as the Columbia disaster in 2003 demonstrated.



Piper Alpha

The fatal explosion and subsequent fire on a North Sea oil and gas platform in 1988 resulted in 167 deaths, and is still used today as an example of where safety culture had broken. A combination of basic communication failures, occurring at shift handover, and a lack of commitment to the permit to work system resulted in night shift staff's ignorance regarding a pressure safety valve.

The safety culture was clearly lacking in both **mindfulness** and being **informed**. This stemmed from the design; gas pipes were installed wherever there was space, instead of being mindful of latent conditions. Gas lines were located next to the control room and consequently the explosion in these lines rendered essential disaster management impossible.



Previous inspections highlighting failures and weaknesses were judged to have been actioned and the site had been signed off as safe. However there was clearly a lack of accurate information and the processes for improvement were inadequate.

Southall rail crash

The rail crash in 1997 killed 7 people and a further 139 were injured when a Great Western train en route to Paddington collided with a freight train. Although driver's lack of attention, i.e., passing through a signal (109) at danger was cited as the main cause, underlying this was an inherent culture of pinning blame on individuals.

SPADs (signals passed at danger) were not routinely reported because of the lack of a **fair** culture – people didn't report freely because they were then punished. The perceived blame culture, also lead to a lack of free flowing information. This was compounded by ignoring any feedback that was received; Signal 109 was inherently difficult to see and was semi hidden, but previous reports detailing this were not actioned. There was also a lack of **learning**, with the driver not being trained in the Automatic Train Protection (ATP) system installed to help prevent such accidents.



Esso Longford gas plant explosion

The 1998 gas plant explosion at Esso's Longford facility in Australia killed two workers, injured eight others and severely disrupted gas supplies to Melbourne.

Esso's attempts to build a safety culture prior to the accident had focused on establishing safety as a core personal value. The aim was to create a mindset that no level of injury was acceptable. Esso's safety theme: *Let's get real... all injuries are preventable* was explicitly aimed at achieving this mindset.

Esso's thinking around safety culture at Longford overlooked the fact that management (and engineering) decisions can be crucial in creating the latent or error-provoking conditions which make major accidents more likely.



The culture was lacking a **mindful** approach; there was a high concentration on slips, trips and falls without looking at the bigger picture; people assumed that a good personal safety accident record equated to good process safety and low risk of major accidents.

There was also a big opportunity for the organisation to be more **informed**, particularly looking at information flows up to management about areas of process safety rather than purely focusing on personal safety. For example, communication between shifts was poor and incident reporting was focused on routine lost-time injuries rather than serious process upsets.

Developing a safety culture

1. Safety Leadership

The essence of leadership is the impact that a person has on the thinking and behaviour of others and the culture that he or she ends up creating as a result. The model below shows some of the key areas for how a leader can impact the safety culture.

Culture-embedding mechanisms

1. What leaders pay attention to, measure and control on a regular basis
2. How leaders react to bad news and organisational crisis
3. Perceived criteria by which leaders allocate resources
4. Observed leader role-modelling, teaching and coaching behaviour – communicates assumptions and values
5. Observed criteria by which leaders allocate rewards and status – what happens as opposed to what is written or said
6. Perceived criteria by which leaders recruit, select, promote and retire organisational members

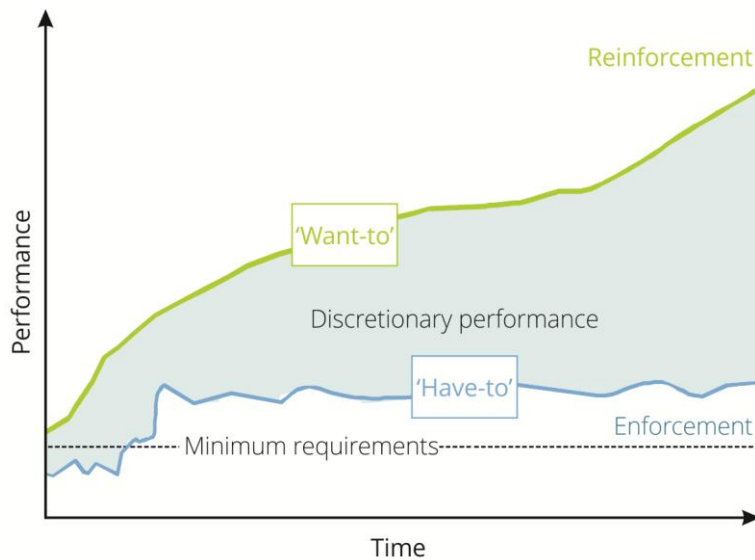
Source: *Organisational Change & Leadership*, Edgar Schein

2. Engaging the workforce

In order to make any cultural shift there needs to be a high level of involvement across the organisation, which includes getting the workforce fully engaged and motivated.

There will be some minimum requirements and expectations that you will have of individuals. There is often a focus on achieving compliance, however, it generally only leads to 'have-to' behaviour, which has to be driven by close supervision and the use of sanctions.

'Have-to, Want-to'



True safety leadership also gains access to peoples' discretionary performance – something extra that people give because they feel motivated to give it. Leaders generate 'want-to' behaviour by building shared norms and understanding, creating greater **mindfulness** of hazards and providing recognition and encouragement in applying safe practices and behaviours.

In summary

The drive for changing an organisation's safety culture is often driven by a catastrophe which results in a thorough root cause analysis to understand what is broken. The *boiling frog* metaphor is a useful example of how safety culture can slowly, without realising it, be degraded.

If you place a frog in a pot of boiling water it will scramble out pretty quickly. If, however, you place him in a pot of water at room temperature he will stay put. If you then gradually turn up the heat the frog won't jump out, but will become groggier and groggier until he is unable to climb out of the pot. Though there is nothing to restrain him he will sit there and boil to death as he doesn't see the threat.



In a safety culture where there is a sense of 'getting away with it' or 'it wouldn't happen to us', people learn to accept a lower norm. The initial acceptance of the lower standard often occurs under pressure (real or perceived) from budget, production or project schedule when the team perceives it will be too difficult to adhere to the expected standard. People would not tolerate a huge shift (boiling water) as it would be obvious and seem ridiculous, yet we accept and barely notice incremental changes over long periods of time.

Developing a robust safety culture is a tough, continuous process. A strong safety culture culminates in non-events, which in itself, is not very self-reinforcing. Building a positive safety culture involves:

- Making visible the unconsciously adopted norms, beliefs and expectations
- Leaders understanding their impact (particularly those unintended consequences)
- Doing something to change things that are not in line with a positive safety culture

Making your safety culture visible may challenge some of your own core assumptions and beliefs. This survey is hopefully a step to get you on the path of changing your safety culture and avoid being a boiled frog!

Appendices

Bibliography



Lessons from Longford – Andrew Hopkins

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Major accident causation – James Reason

Disastrous Decisions, the Human and Organisational Causes of the Gulf of Mexico Blowout – Andrew Hopkins

Failure to Learn; the BP Texas City Refinery Disaster – Andrew Hopkins

Flirting with Disaster: Why Accidents are Rarely Accidental – Marc Gerstein

Friendly Fire, the Accidental Shootdown of US Black Hawks over Northern Iraq – Scott A Snook

The Challenger Launch Decision: Risky technology, Culture and Deviance at NASA Diane Vaughan



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US Chemical Safety Board

www.decomworld.com/

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http://www.raib.gov.uk/publications/investigation_reports.cfm

Rail Accident Investigation Branch



Report of the Public Inquiry into the Piper Alpha Disaster – Lord Cullen

Management Walk Arounds: Lessons from Gulf of Mexico Oil Well Blowout – Andrew Hopkins

Safety Culture, Mindfulness and Safe Behaviour: Converging Ideas? – Andrew Hopkins

Why Safety Cultures Don't Work – Andrew Hopkins

Our expertise

Our experience in high hazard industries covers many clients and organisational cultures. Our thinking, and some case studies can be found on the following pages.

What we do

We are an energetic and innovative team who share more than 240 years of extensive consulting and business experience.

our offer is simple –
we **always** make
a difference

Leadership and teams

We work with all types of teams – project teams, leadership teams, devolved teams, alliances and normal work teams – and also advise clients on how to improve team performance.

We have a single overriding philosophy in team development, which is that teams need to practise being high performing – this could be through issue workshops, training and/or team challenges. By doing so the team develops its collective memory for what high performing feels like, and what can be used in everyday operations.

In terms of leadership, our belief is that leaders set the culture for organisations through their behaviour and what they pay attention to. It's important for leaders to understand how their behaviour has a real impact on an organisation's performance.

Safety and risk

A key insight gained from working with clients in high risk industries is that if mantras such as 'no accidents', 'zero harm' and 'injury free' are to become more than a well-intended aspiration, then the lessons learned from major accidents need to be applied.

We have an outstanding track record of helping companies build sustainable excellence in safety culture and leadership through bespoke workshops and training interventions at Board, senior and middle management level.

Leadership is a key influence in shaping both operating culture and individuals' behaviours, so our focus is on how leaders make decisions to drive safety performance.

Project excellence

lloydmasters has developed a unique approach to managing and advising on projects, built around goal directed planning, a process which gains stakeholder involvement and true team alignment. Open dialogue, commitment and ownership are key in ensuring successful project outcomes.

This proven process, along with our coaching interventions and project readiness tools, have given us an excellent track record in delivering project success.

We have advised on numerous highly complex, large capital and organisational multi-stakeholder projects, where a number of diverse work streams need to collaborate to deliver the end goal.



Expert facilitation

Facilitation is both an art and a science; a science as every workshop or meeting needs a thoughtful structure leading to a specific outcome; and an art in the way the event is conducted.

Facilitation should move things on, be challenging and not always be comfortable for the participants. The outcome is key and shouldn't be left to chance.

Systems thinking drives our philosophy and we want to ensure that people are fully engaged, challenged and understand others' viewpoints. Good dialogue is essential to a successful meeting and a key part of the facilitator's role is to make that happen – we are not just time managers.

Management development

The development of skills and knowledge is essential for individuals in improving their own and the organisation's performance. However, on its own this is not enough – the shifting of mind sets and the ability to understand others' mind set is also required if individuals are to truly grow.

All our efforts in management development are geared to designing bespoke programmes aimed at providing proven tools and techniques, and – importantly – ensuring practise of these skills in a controlled environment.

How we do it

Working in **partnership** with our clients is our basic philosophy.

We believe it is key to making a difference. We set up working groups where relevant, to **unlock your organisation's own potential** and develop the capability of your own people – that is what drives sustainability.

We **coach** your people and can support project leaders, or take that role ourselves if preferred. Our work is supported by skilled graphics and production staff, software developers, communication specialists and client administrators.

We regularly host **networking events** and knowledge sharing seminars for our clients. We share our own key learnings, developed models and experience at these events and we may also bring in our **trusted partners** with specific expertise when needed.

Since the 1989 we have saved our clients over £4 billion, worked with over 24,000 people and developed our project management methodologies and strategy with 30 FTSE 100 companies.

We work with some of the world's largest and most successful organisations throughout Europe, America, Africa plus the Middle and Far East including global corporations – BP, Balfour Beatty, Exxon Mobil, British Airways; NGOs – United Nations, World Business Council; public sector – NHS, Local Government and regularly speak at Conferences and Academic Programmes.

specialists in issue resolution, creating change and moving things forward

working with teams and leaders to **enable** understanding of their impact and shift performance to the next level

developing inspirational teams, **innovative ways** of working and true alignment

changing mindsets to develop **outstanding safety leaders** and a robust embedded safety culture



Balfour Beatty



STANHOPE



BRITISH AIRWAYS



lloydmasters has an outstanding track record of working with companies to build on existing culture, initiatives and practices to develop exceptional safety leadership, reduce risk and deliver improved safety performance. Our focus on safety leadership, safety culture, behavioural safety, major accident risk and systems failures provides an integrated approach that addresses the root causes of major accident and personal injury risk.



TRAINING PROGRAMMES

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| <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #e6f2e6; margin-bottom: 10px;"> <p>Leadership 1</p> </div> | <ul style="list-style-type: none"> ▶ Changing the way leaders think about safety ▶ Changing the safety culture of the organisation ▶ Sustainable risk reduction |
| <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #e6f2e6; margin-bottom: 10px;"> <p>Managers and supervisors 2</p> </div> | <ul style="list-style-type: none"> ▶ Changing the way managers and supervisors recognise and understand risk ▶ Interacting with others to change safety behaviours ▶ Improving the control/management of risk |
| <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #e6f2e6;"> <p>Contractors
Third parties
Partners
Supply chain 3</p> </div> | <ul style="list-style-type: none"> ▶ Understanding the way our partners think of safety and our impact on them ▶ Aligning the risk management culture and practices of all parties ▶ Achieving common risk management standards |

CONSULTANCY

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| <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; background-color: #e6f2e6;"> <p>Consultancy 4</p> </div> | <ul style="list-style-type: none"> ▶ Safety management systems ▶ Safety frameworks ▶ Cultural diagnostics |
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Our approach with you

A feature of all our programmes is that they are delivered in a participative, interactive fashion which uses delegates' own examples, the existing management system and other case studies to draw out the learning.

Our approach includes skilling up a cadre of in house master trainers, who in turn train others. This ensures skills stay in house and safety issues become connected across the organisation.

- Boards, senior executives, managers, team leaders, supervisors, workforce, contractors, joint ventures, alliances
- Over 5 years trained 28,000 employees
- Global delivery experience: Castrol (turnkey safety leadership package)
- Train-the-Trainer a speciality: delivered in 20+ countries across multiple languages, accredited 5,500 trainers / coaches

For BP we designed, developed and rolled out their global behavioural safety tool called SOC (safety observations and conversations).

At Gammon (a rail, civil engineering and construction conglomerate which operates across Asia based in Hong Kong and Singapore) we delivered a range of safety culture and leadership services. These have included safety audits of existing projects, board-level workshops, management training events and train-the-trainer delivery for supervisory and front-line behavioural safety training.

We have developed core safety leadership programmes at British Airways for executive and middle management.

For Network Rail we have delivered over 150 one day safety leadership modules to operators, team leaders and senior managers.

we are a niche
transformational
consultancy focused on
driving performance
through engagement

At PetroSaudi (an exploration and production operator) we have developed and implemented a safety management system (SMS), securing IMO accreditation.

We have been working with the Balfour Beatty Group of construction, infrastructure and civil engineering companies since 1998 including safety culture and safety leadership at The Aquatic Centre, Heathrow Terminal Two and the Blackfriars Rail Redevelopment.

And for two major shipping lines, we have developed and delivered a series of coaching, leadership and safety culture interventions for both officers and crew including train-the-trainer programmes in safety leadership and human factors (HF) for on-board safety training officers.



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