

Perspectives on effective leadership for health and safety

Notes from a seminar (Midland Branch, East District)



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Introduction

This booklet outlines the key messages of a one-day seminar on effective leadership organised by the Midland Branch East District of IOSH. The focus of the seminar was on how effective leadership behaviours contribute to high standards of health and safety performance in the workplace.

Contributors included:

- Dr Tim Marsh: reviewing the influence of psychology on behaviour and its role in developing a strong health and safety culture.
- Dr Colin Pilbeam: reviewing new models of leadership based on research at Cranfield University.
- Darren Broadhead: outlining the challenges of being over-focused on people and task factors at the expense of impactful organisational factors.
- Nigel Bryson OBE CFIOSH: making a strong case for workforce involvement in health and safety management.
- Professor David Denyer: highlighting the imperceptible drift into failure due to a cumulative build-up of small oversights which then contribute to significant incidents.
- Steve Radcliffe: identifying the contribution of leadership behaviours of all employees via the FED Model.

Every business has different challenges, levels of maturity and areas of focus, and so there is no one-size-fits-all approach. Depending on the organisation concerned, some of the perspectives outlined here will more applicable than others in providing support to achieve high levels of health and safety performance.

The contributions were summarised by IOSH to form this collection of thought-provoking pieces that provides different perspectives on effective leadership. While these contributions do not constitute a formal IOSH position on the subject, they can nevertheless be used as prompts for individual reflection or discussion among peers and others in the workplace. IOSH is pleased to publish these, in recognition of members' views and in the hope that they will be the starting point for further exploration of an important field of enquiry.

Preface

Dr Tim Marsh explains how powerful the behaviour of those around us is on influencing our own behaviour. Where those strong influencing behaviours align with the vision and values of the organisation, this can be incredibly powerful in moving forward; if they do not, then the prevailing culture can really limit the amount of progress possible in improving safety and health performance.

Developing these points, we are directed to consider the development of a fair and just culture. In this circumstance we are required to recognise that a no-blame culture does not balance with the vision and strategy of some organisations and that we must look for a fair attribution of blame, where reckless violations are met with a constant approach to the management of consequence.

Dr Colin Pilbeam guides us through a number of different models of leadership which can be used to develop an organisation's safety and health performance. In the first instance, we are challenged on the need to get beyond being purely "controlling" in our approach and adopt the roles of "coach" and "carer".

He introduces us to the Shared Leadership Model, where 'leadership emanates from the designated leader plus other group members who share leadership roles – each leading the others'. He concludes with an essential reminder that leadership is, in the first instance, about people and how we deal with them and not about procedures and systems.

Darren Broadhead challenges us to consider how we should use Organisational Risk Control to create workplaces which are tolerant of error. He anchors the article on the role that business leaders have in setting the values and vision of an organisation and then, every day, demonstrating that they are fully accountable for the business' safety and health performance.

The article recognises the strong contribution of task and people factors in building a positive safety and health culture but, without the foundation of accountable leadership, these other factors are likely to have limited impact. He concludes with the reality check that what we really want, we get through applying ourselves diligently to a situation. The things that we say we want, but in fact do not, soon get left behind.

Nigel Bryson raises the very real challenge of ensuring appropriate "soft skills" are in place to realistically move safety and health performance forward. He identifies that engaging the work force *via* the use of strong "soft skills" is essential for success. Citing Professor Löfstedt's 2011 review, *Reclaiming health and safety for all*, he highlights the evidence demonstrating that greater worker involvement led to a significant improvement in safety and health performance.

His conclusion makes the clear link that strong worker engagement through the deployment of effective soft skills is not only good for safety and safety but also good for business as a whole. Engaged workers are more productive and contribute to the financial, as well as safety and health, achievement of the organisation.

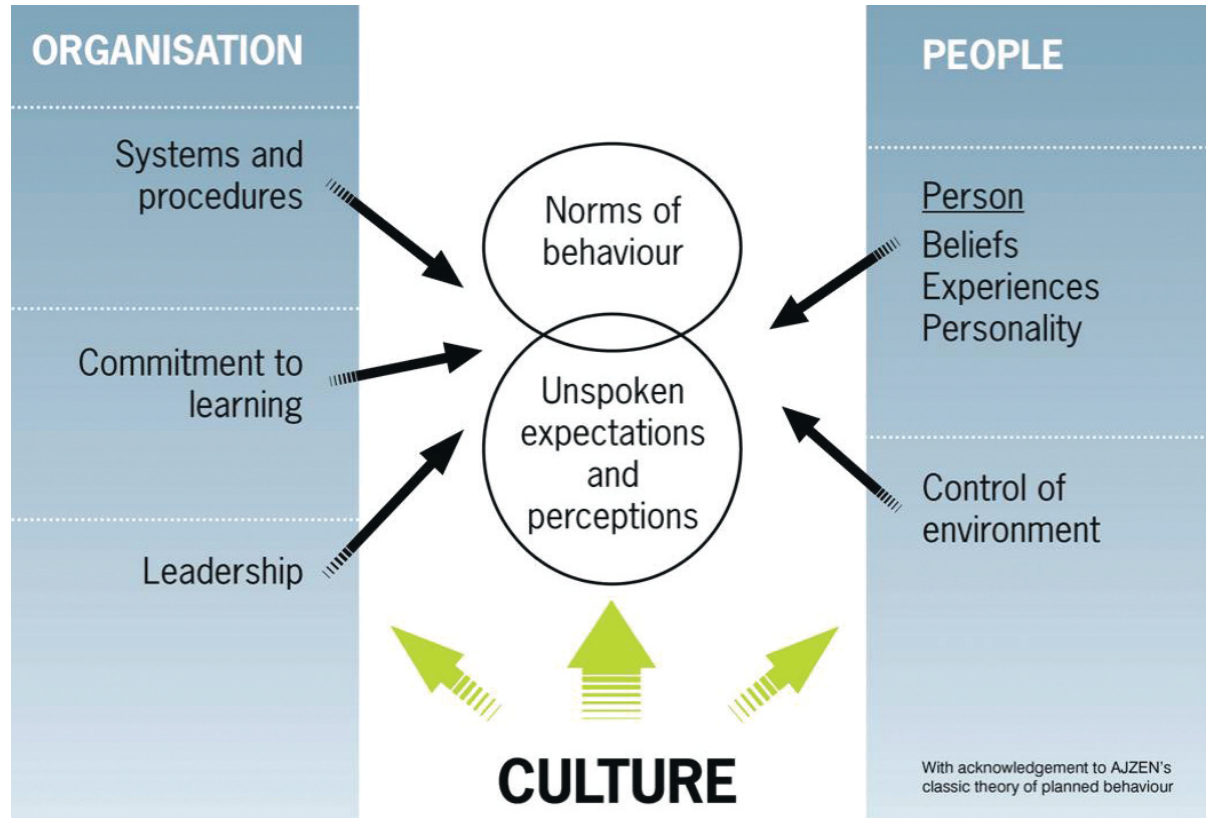
Professor David Denyer identifies the significance of a gradual, imperceptible drift into failure, where a cumulative build-up of small oversights, none in their own right sufficient to cause an incident, can have a major impact.

He identifies the contribution of individual factors (for example, over-confidence, operating on autopilot, silence and denial) and situational factors (such as junior decision-making and conflicting goals) on maintaining high levels of performance and preventing the drift into uncertain and unplanned territory.

Insights from psychology

Dr Tim Marsh

The influence of culture on behavior



In a psychological/behavioural experiment, an unsuspecting worker walks into a lift. As it starts to move, all the other occupants turn around and face the back. It only takes a moment before the worker follows suit. This is 1950s America and he's on *Candid Camera* – but the lesson holds true for workplaces today. People are strongly influenced by the behaviour of those around them, even when that behaviour is irrational, careless or dangerous. The effect is even greater where that behaviour reflects wider cultural norms, whether of the workers' peer group or of society as a whole.

The fact is that *everyone* is a leader – whether for good or ill. New members of staff will follow the example of others, and if 90 per cent of staff are compliant with safety procedures, the newcomers will go with the flow. Conversely, it only takes a comment or smirk from a colleague to discourage the keen new trainee from doing it the safe way.

On the BP Macondo well (Deepwater Horizon), a new engineer was met with “robust humour” when he (rightly) queried some readings. This robust humour led to the new engineer not pursuing his concerns.

The Challenger space shuttle disaster is another example of how even a subtle influence or chance remark can undermine good judgement. The engineers had warned that low

temperatures would prevent an O-ring from functioning properly. A brief comment by a senior manager was enough to override the engineers' advice and the launch went ahead – followed by the catastrophic explosion when the O-ring seal failed.

The just culture/positive culture

Reason's model of the just culture is based on the premise that people are rational beings. Behind every unsafe act, there is either a deliberate decision to break the rules, or a situational factor that predisposes someone to make an error. Culture is a shared, taught or replicated way of doing things, so all those in a particular culture do things in a similar way, which they would consider the norm. So an organisation's safety culture is a shared view of working practices, risk acceptance or tolerance, controlling hazards and dealing with accidents or near-misses.

A positive safety culture has three key elements:

- working practices and rules for controlling hazards effectively
- a positive attitude towards risk management and compliance with the control processes
- the capacity to learn from accidents, near-misses and safety performance indicators, to use this information to amend the control measures and so drive continual improvement.

There are different ideas as to the hierarchy of these key elements. Internal (in-house) safe working practices can be developed that comply with health and safety legislation, guidance and best practice for controlling the workplace risks. A positive attitude to compliance with standard safe working practices can be led visibly by senior management.

However, for both of these elements to be effective, an organisation needs to learn from what is happening in the workplace, that is, to be aware of and suitably analyse accidents and near misses, so that improvements to working practices can be developed. Organisations also need credible and honest safety inspections and reports so that management can direct and influence improvements.

Many organisations have such low levels of reported injury or ill health that it is difficult, if not impossible, to base improvement plans on them.

So a prerequisite for a positive safety culture is an informed or reporting culture. For the right information to flow, there needs to be a willingness by all to participate and be prepared to report their own mistakes, near-misses and accidents. This willingness to report is dependent on how the organisation investigates incidents and how blame is handled. A blame culture – that is, one that punishes individuals even for minor mistakes – will have very little reporting. A no-blame culture – one that allows all mistakes or errors, including those that are reckless and negligent, to go unpunished – is not really feasible and goes against corporate and individual acceptance of responsibilities.

The best-informed and open arrangements are based on a fair-blame culture or just culture. This is a culture where all but the most reckless safety and health failures can be reported without fear of retribution. Reporting should be encouraged and even rewarded. For this to be established, a clear line between acceptable and unacceptable (reckless) behaviour needs to be drawn. It is important that when the organisation *does* attribute blame, this does not undermine the reporting culture.

In order to be transparent about attributing blame, some organisations use a substitution test to determine when an incident was due to unacceptable or reckless behaviour. A substitution test is where a peer or group of peers are presented with the facts and circumstances that led up to the incident. If the group of peers decide on the same action as the individual or individuals who caused the incident, then attributing blame is not the best result of the investigation. A process may need to be redesigned or the person(s) involved

may need further information or training. If the peer/s decide on a different (safer) action, then the investigation needs to determine whether there was a deliberate or negligent act by the individual(s) that resulted in the incident and some sort of blame/punishment is appropriate, or whether there were other mitigating circumstances.

As part of a positive culture, safety professionals (and line managers) need to engage with employees, asking them specifically whether (for example) their PPE is uncomfortable or a safety procedure is significantly slowing down their work and, if so, how things could be improved. Rather than spending resources on one-off events, or limiting communication to a poster campaign, spend your budget on facilitation and analysis. This means spending time talking to employees at all levels, asking them what's going on and why, and analysing the causes of unsafe behaviour.

What about those deliberate violations of the rules? Should the individuals in these cases always be blamed as "bad apples"? ABC analysis – Antecedent, Behaviour, Consequence – casts light on the internal reasoning which lies behind such deliberate breaches. Every behaviour has both an antecedent (cause) and a consequence.

Think about the times when we are all tempted to break society's rules, or ignore wise advice. How many people could honestly put their hands up and say they have never raced through an amber light, or driven over the speed limit? If an action brings a consequence that is "soon, certain and positive", people will be tempted to do it, even though it may not be in their longer-term interests.

So, if a particular safety procedure is perceived to be slow, uncomfortable or inconvenient, people will invariably be tempted to bypass it — especially if they pick up the message that management is more interested in efficiency than safety.

Applying the lessons to health and safety

Dr Colin Pilbeam

A recently-completed research project looked at the relevance of new models of leadership to health and safety in the service sector. Seventy to 80 per cent of UK workers are employed in low-hazard, service environments which they perceive to be largely safe – so what is the role of safety and health leaders here, and how do they operate?

People with a specific responsibility for health and safety leadership are involved in three categories of activity:

- Controlling – developing policies and procedures; hiring staff, managing safety and health supplier contracts; investigating and reporting incidents; setting goals and targets; monitoring worksites; operating reward systems.
- Caring – training, communications and feedback; provision of PPE; working with employee representatives; mentoring less-experienced safety and health professionals; transmitting values.
- Coaching – role modelling commitment and participation; mentoring line personnel.

While the controlling roles are necessary, the effective leader will move beyond these to become a carer and coach.

Leader styles

Reviews of leadership literature revealed four personal styles of leadership, some better than others.

- **The monk** oversees the safety and health manual and hands down the rules for others to obey.
- **The mercenary** does it all themselves as no one else is regarded as competent.
- **The missionary** communicates the importance of safety and health without explaining how to do it.
- **The mentor** develops safety and health awareness and skills in others.

(Source: *Buttolph 1999*)

A leader who operates as a coach and mentor will *distribute awareness* of safety and health, inspiring others to develop as leaders too. The best leader does not just communicate and enforce the rules (transactional leadership) but influences, inspires, and supports (transformational leadership).

Coach, not commander

We have already recognised that if people are to be engaged, they need a coach rather than a commander. So how does this apply in practice to the world of safety and health?

Most people dislike being told what to do but will listen to a reasoned explanation. And workers are quick to spot hypocrisy or underlying agendas. Tell someone “your work is good BUT...” and they will have no trouble picking up what the message is really about. “Do it safely, but by Friday” puts time above safety as a priority. The coach leads by example, showing, by their own commitment to safe working procedures and practices, that safety is not just a box to tick before getting down to the real business of ‘making money’ or ‘delivering services’.

A different approach to reporting

Employees may not have the confidence to act on their concerns about risk if they believe that their views will be aggressively challenged – for example, if a shutdown leads to lost production. This was a factor in the Piper Alpha fire where, despite the fire having already

started, staff on an adjacent installation feeding oil and gas to Piper A would not shut down without the approval of onshore management. By taking a different approach to reporting, the effective manager can communicate that safety is paramount and give workers greater confidence to take initiatives. For example, instead of asking “why did you close down?”, ask “why did you think it was safe to switch back on when you did?” This helps to avoid a culture of blame.

The research completed has identified new models of leadership that might in future be applied to improve safety and health in organisations.

Shared and distributed leadership

In the shared leadership model, “leadership emanates from the designated leader plus other group members who share leadership roles – each leading the others.” Distributed leadership takes it one step further: leadership “is enacted by multiple individuals in the organisation.”

There are two key ideas in the distributed leadership model.

- **Concertive action:** people work together in a mutually-supportive way.
- **Conjoint agency:** there are shared goals and reciprocal influence.

In the ideal situation of distributed leadership, the team members have shared goals and work together energetically to achieve them. A relevant model for workforce involvement in safety and health!

Safety leadership in a changing environment

Most research into leadership has been done in stable environments. Are the lessons learned there transferrable to situations of rapid change? Leadership gurus Heifetz and Laurie have looked at how managers can lead most effectively in a dynamic context. Their insights relate to management in general and have not yet been applied specifically to safety and health. Perhaps surprisingly they see benefits in allowing an organisation to experience external pressures, which will challenge and hopefully extend the staff. Where there is a risk of conflict, rather than immediately seeking to restore order, leaders may choose to expose conflicts or let them emerge, as a source of creative discussion. In a changing environment, roles can be allowed to develop and unproductive norms can be challenged.

Safety leadership in a complex environment

The traditional approach to safety and health is based on managing hazards and risks, but all too often these terms are defined in a vague, imprecise way and the heterogeneity of the workplace is not taken into account. An alternative model of management instead focuses on:

- **Interactive complexity** – in a highly complex situation, problems are more likely.
- **Coupling** – the way in which an incident (undesired event) in one part of the system affects other parts.
- **Velocity** –the speed at which change must happen (for example, a response to an incident) if harm is to be avoided

Complexity is often an aggravating factor in major incidents: learning to understand a complex system is a necessary step to predicting the problems that may arise within it.

In conclusion

The lessons are clear: leadership is not about procedures, but about people. Undoubtedly there is a need for careful analysis of the complex systems, unhelpful cultural norms and incomplete communication networks that can be precursors to a catastrophic event.

However, the safety and health professional who has a good relationship with colleagues, communicates clearly and courteously and can win over others to a shared vision of a safer and healthier workplace is well on the way to becoming an effective leader. And the safest and healthiest organisations are those in which leadership is shared and distributed throughout the workforce.

Organisation risk control and the creation of error-tolerant workplaces

Darren Broadhead

Introduction

The ability to distinguish leaders from those who have leadership attributes may seem like semantics, but a distinction is important. Ultimately there are a small number of employees who must agree and set the direction of an organisation and work tirelessly to deliver the vision and values on behalf of all stakeholders.

Effective leaders are often noted for their ability to guide the personal development of their teams to be more transformational and less purely transactional in nature. Most will agree that it is healthy to have a progressively greater number of employees who are strong role models and who continuously challenge what is acceptable. However, the leadership team must, ultimately, continue to steer the organisation through all phases of its maturity.

The absence of a guiding leadership example, particularly at the initiation of cultural change, is one of the most significant blockers of success.

Asking yourself, or other business leaders, “What are your main risks as a leadership team?” will often generate a wide variety of answers, ranging from profitability and cash flow, to the size of the order book and the content of a risk management consultant’s report.

Health and safety is often absent from this discussion beyond cost contributions to the insurance story – dealing effectively with this gap is the subject of this paper.

The significance of organisational factors in effective risk control, driven by strong leadership and management commitment

Traditional risk management has often focused strongly on the actions of individuals at work and the immediate work environment. There is a logic to this, as people, and the physical controls and systems which support them, are immediately evident as a task or work activity is completed. You might ask, “Where else could you focus?”

We should be really clear that it is not individual people or management systems that put people to work in challenging environments. That is the role of the leadership of the organisation.

Again, you might think this is obvious. The distinction is, however, that many organisational decisions with an impact on the safety and health of workers are not always considered as safety and health issues. As a result, these are often not reviewed when

- we plan to be safe through good risk management;
- we monitor performance through safety tours; or
- we review how things went wrong during incident investigation.

So what are examples of highly-impact organisational factors? My own experience identifies leadership skills demonstrated by personal passion and commitment as the most important factor. Leaders acting in a way which consistently shows their alignment with the values and vision of the organisation are the strongest drivers of effective risk management.

This basic foundation facilitates other key organisational factors such as staffing levels, supervision levels, quality of performance review, communication, engagement, reward and recognition, all of which can be hugely influential.

When you establish your risk management approach, do these types of issues arise? When you consider risk management broadly as a leadership team, are these issues on the “radar” of what is important? Will they be prioritised and resourced for action?

The impact of an overt focus on people and tasks in achieving effective risk control

The behaviour of individuals is now always strongly in focus when we consider our risk control arrangements. The recognition that – based upon how the human brain functions – people make errors and violate the safety and health rules is often reported under the banner of human failure or human error. As identified, this makes perfect sense as people are closely located to work tasks and have a strong influence on their success or failure. Getting this part right will always be an important part of developing safety and health performance.

In the news in 2016, we have seen theme park and train incidents, among others, reported as human error. We have heard that the necessary human resources processes have been deployed to “deal” with those who have breached the rules. The use of the phrase human error now feels like a clear root cause in many incidents as well as an accusation against those involved.

Clearly knowing specifically how people have failed is very insightful in fully understanding how an incident has occurred, but it must be seen as the start of the investigation process and not the end. The required leadership behaviour here is to have the courage to ask the question around why risk management arrangements were put in place which were not tolerant of human failure. Why was the business so vulnerable to a simple error or violation that allowed such a significant risk to be realised?

Stopping at this point will have two major impacts: first, you will miss opportunities to learn about what really happened (and what probably happens every day) and what can be done to prevent its recurrence. Second, it is hugely damaging to the culture of the organisation, as credibility is lost and trust breaks down between employees and management.

It should be no surprise to any of us that people can and regularly do deviate from what was required of them. The challenges of everyday life can have a significant impact as can the basic cognitive functioning of our brains.

If we flip this around, would we measure human success without considering the organisational factors which facilitate that success (for example, recruitment, remuneration and communication arrangements)? Or would we assume, or be comfortable with, performance improvement springing spontaneously from a diverse group of employees and supply chain colleagues?

The exclusive presence of human error at the frontline worker level

As many organisations look to improve their safety and health performance, the difficult subject of consequence management often arises. The next step in this story is that passionate and motivated leaders will enter the “desk-thumping” phase and be exasperated regularly by the failure to launch new risk controls or conduct meaningful safety conversations and by the occurrence of incidents, often repeat incidents. This is typically seen as failure of people and systems factors at the sharp end, and the clear need for consequences to be handed out will be demanded.

The diagram below shows how consequence management often appears to frontline workers. Effectively, only employees make errors and violate the rules, and occasionally the “blame” may be directed at a supervisor or the safety and health practitioner. The message through the organisation is clear: senior managers do not make errors and do not violate the rules.



This clearly makes no sense. All types of employees are affected by the same cognitive processes which allow slips, lapses and mistakes to occur.

Similarly, all employees are subject to the same risk versus reward thoughts that drive frontline employees to break the rules. Who sets the leadership example for the leadership team and how is their performance monitored?

To make matters worse, the errors of senior managers may lie hidden for many months and years before they have an impact on the organisation. Budget restraints applied to new-build projects are a good example of this, where scope may be reduced and therefore safety features which have a significant impact on worker safety and health, both mental and physical, are minimised or eliminated. The significant consequence of these leadership-driven scope changes may take time to materialise in the form of occupational health issues or maintenance tasks which are impossible to conduct safely.

Conclusion

Organisational factors have the strongest influence on the quality of risk management in an organisation. Their reach is across all activities of the business and into the personal lives of all employees and the supply chain.

The basic principle that “what interests my boss, fascinates me” goes some way to explain that what the leadership of an organisation “really” wants, they will make sure “really” happens.

For absolute clarity, “really” wanting something has very little to do with the numbers of “zero harm” posters on company walls or the number of exhortations about “safety as the number one priority”. It has everything to do with what you persistently and consistently say/don’t say and do/don’t do as a leader.

The key performance indicator (e.g. zero harm or safety and health road map implementation) you use to measure what leaders really want will have a limited impact on performance improvement alone. The behaviours of leaders, managers and all employees determine the business performance from which results arise. The KPI measure, on its own, achieves nothing.

When organisational factors are addressed effectively with task and people risk control measures, a high level of confidence that risk will be eliminated or mitigated can be achieved. In brief, people will go home safe and well.

Leadership teams need to have a clear picture of the spectrum of business risks likely to have a significant impact on the running of their organisation. Failing to recognise safety and health as a key business risk and failing to address the more difficult-to-resolve organisational factors will have a big impact on the future success of the leadership team and the organisation.

Finally, developing leadership capability throughout the organisation is a smart approach. However, consistent risk management, recognised as a key attribute of high-performing organisations, will only be achieved when the passionate commitment of the senior leadership group is established, visible and felt by the organisation each and every day.

The need for training in soft skills

Nigel Bryson

Too many managers lack the soft skills of communicating with their workforce. Current safety-related qualifications syllabuses often do not cover “people skills” or the organisational aspects of safety and health. However, people skills are integral to safety representatives’ courses run by major trade unions.

This chapter highlights the importance of good communications and effective communication networks. There is another element of effective leadership that can make a dramatic difference to safety and health performance – involving the workforce in decision-making.

Engaging the workforce

Outstanding leaders engage their team: and in the area of safety and health, there are clear benefits to engagement.

Why worker engagement is vital

Organisations where workers are involved in decision-making are measurably safer and healthier. Professor Löfstedt’s 2011 review *Reclaiming health and safety for all* found evidence that greater worker involvement led to a significant improvement in safety and health performance. The HSE Research Report 964 *Worker Involvement Evaluation* reached similar conclusions. Unfortunately, in many organisations, little has been done to implement these findings.

The lessons from business

Not only is worker involvement good for safety and health, it also makes for better business, and there are lessons that safety and health managers can learn from the wider business world.

Vineet Nayar, CEO of the Indian IT company HCL Technologies, revolutionised his business by turning the management structure on its head to create an inverted pyramid. The emphasis shifted from senior managers to those actually doing the productive work, aiming to give them the best possible support. The role of CEO was recast as a facilitator. Nayar took time to meet with employees, listening to their concerns and finding out who added value to the organisation. Employees were trusted to look at budgets and find out why money was being spent.

The transformation took five years, and the business expanded from a \$700 million business in 2005 to a \$2.5 billion business in 2010.

‘Leaders there have to be, and these may appear to rise above their fellow men, but in their hearts they know only too well that what has been attributed to them is in fact the achievements of the team to which they belong.’

(Leonard Cheshire)

Engaged workers are more creative. A *Harvard Business Review* article on employee engagement that analysed 100 business studies concluded that employees are far more likely to own and support what they themselves have been involved with developing.

In the UK, the motor manufacturing industry has been transformed through the inward investment of companies such as Nissan. Despite the fact that every plant is unionised, industrial relations are good – in stark contrast to the days of British Leyland in the 1970s. The reason? Maybe the CEOs from overseas realised that the best training is management by example and that investing in people is not wasting money.

The UK government has also recognised the value of worker engagement. The Department for Business, Industry and Skills, in its 2009 document *Engaging for success*, urges managers to place worker involvement at the heart of business strategy. This message is repeated in the more recent findings of the Employee Engagement Taskforce.

Taking account of workers' needs

Managers who listen to their workforce will become aware of barriers to health, safety and productivity. A common failing is to concentrate on safety while overlooking workers' general health and wellbeing.

Lessons which took time to learn

During World War I, an ergonomic study into munitions manufacture was the catalyst for the introduction of workplace canteens. Productivity increased when workers were allowed breaks, provided with food and had their shifts reduced.

Women were supplied with manual handling equipment for lifting heavy loads – but as soon as the war ended and the men returned, the previously inefficient methods were gradually re-introduced.

It was not until the introduction of the Working Time Directive that the benefits of shorter shifts were legally acknowledged. And the managers of the Olympic Park construction project had to re-learn the lesson that workers need to eat.

Many construction workers were wilting as their shift progressed because they skipped breakfast. Injuries were occurring as a result. However, many were re-energised once the canteen started supplying £1 bowls of porridge for breakfast. And the injuries decreased!

Gaining workers' interest

Health and safety committee meetings are not always the most exciting events on the calendar. People need to be encouraged to bring their own positive ideas for improvement. And when it comes to training, new technology can help. Interactive 3D games are now available, creating a virtual workplace in which hazards can be identified and managed. By using videos of the workplace, employees can visualise the risk assessment.

Another worthwhile exercise is the use of a recorded diary. Volunteers carry a small recorder with them throughout their working day, using it to comment on any safety and health issues that they come across. As well as providing useful information on the state of the workplace, this responsibility encourages them to be watchful and proactive.

All these activities will increase worker involvement and enhance their mindfulness and alertness that is so essential to everyone's safety and health.

It is quite often asked how senior management can be won over to a policy of worker involvement. The best way is to tell senior managers what's in it for them – a safer, more efficient workplace with fewer serious incidents and lost work time. Start by talking about the issues that interest them: finance, or productivity, perhaps, then show how safety links in with these concerns. People support what they help create.

A recipe for disaster

Professor David Denyer

Things can go wrong because they usually go right. Big failures occur due to the accumulation of lots of small, apparently inconsequential failures, rather than one single failure.

Iraq, 1994: two US Airforce F15 fighter planes are sweeping the no-fly zone in the north of the country. It is a bright day with perfect visibility, and the planes are backed up by an AWACS surveillance team.

The pilots spot two helicopters and send out a code – friend or foe? They receive no response. The helicopters are not recognised and the fighter pilots refer to a reference sheet of silhouettes. Some of the AWACS crew are new and some equipment is not working, so their usual systems of work and exchanging information about friendly flights and potential targets spotted by the fighter patrols are not functioning properly. The helicopters appear to have rockets attached underneath, and the lead pilot identifies them as enemy Hinds. In fact, the “rockets” are fuel tanks and the helicopters are US Army Black Hawks, unarmed supply aircraft with 26 military and civilian personnel on board.

The fighter pilot follows his training and reacts on the information he has, shooting down both helicopters and killing all those on board.

The subsequent investigation revealed a catalogue of errors and misunderstandings. Some of the key ones were:

- the army and air force had incompatible radios, so the Black Hawks never heard the “friend or foe?” code.
- the helicopters had been fitted with detachable fuel tanks that looked like rockets.
- the controller did not look up the destination of the helicopters.
- no named individual had been assigned responsibility for tracking helicopters.
- the army thought that the no-fly zone applied only to fixed wing aircraft.

And underlying the whole situation:

- there was an atmosphere of rivalry between the two forces. The whole system was stretched due to limited resources.
- there was a lack of communication between senior officers and troops.

Further information on this incident can be found at:

<http://sunnyday.mit.edu/caib/issc-bl-2.pdf>

While the circumstances of this tragedy may be unique, or restricted to a wartime situation, there is an underlying pattern that is repeated in almost every major incident. The Mid Staffordshire health trust scandal, the Challenger space shuttle, the Macondo oil well (Deepwater Horizon) – in every case there had been a drift away from a culture of safe working which was gradual and not picked up.

Incidents like these do not happen because of the absence of management systems and procedures. Procedures are generally in place but for a variety of reasons are not consistently implemented. So what are the underlying causes behind most major accidents?

Ingredients

The ingredients of the recipe for disaster are in two categories:

- those relating to the individual, such as human error or deliberate violation of the rules.
- wider situational factors which spring from inadequate management of the organisation.

There may also be systemic factors emanating from wider society – external influences may be social, political, legal or economic.

Individual factors

1. Overconfidence

A lot of organisations are poor at thinking about what could go wrong and do not discuss these scenarios at a top level.

“... in all my experience, I have never been in any accident... of any sort worth speaking about. I have seen but one vessel in distress in all my years at sea. I never saw a wreck and never have been wrecked nor was I ever in any predicament that threatened to end in disaster of any sort.”

E.J. Smith, captain of the Titanic

People are inclined to overestimate their ability and downplay the risks to which they may be exposed.

Around 93 per cent of drivers think they have above-average driving ability. People also underestimate the probability of rare events and overestimate common events: about 50% of people in UK think they will live to 80, but not many think they stand much chance of living to 100. In fact, if you are over 50, the probability of living to 100 is approximately 14 per cent.

Our brains are not as sharp as we would like to think when it comes to observing and evaluating our immediate surroundings. Cognitive bias – an incomplete or distorted perception of reality resulting from our own data-processing limitations, or the influence of those around us – comes into play. Because major accidents are infrequent, people become complacent and think that “it could never happen here” or “it could never happen on my watch”. Instead, we need to ask “what could the future hold – and what could constitute failure for us?”, and to do this regularly because things change all the time.

Sometimes the very existence of safety systems can foster complacency. A healthy balance needs to be struck between creating an excessive degree of control, leading to overconfidence, and a dangerous absence of safeguards. The optimum state is one of “healthy uneasiness”, wariness and alertness – all part of the mindfulness which is so central to a good safety culture.

2. Operating on autopilot

There can be unintentional blindness: when people have a specific task they can have a narrow field of view and focus only on the task. People may then see what they expect to see rather than what is actually happening.

An example is <http://www.theinvisiblegorilla.com/videos.html> A group are watching a video of a game. They are each assigned the task of counting how many times the ball is passed. Focused intensely on their task, 60 per cent of the observers fail to notice a gorilla walk into the middle of the game and jump about for 30 seconds. This reinforces the point that, frequently, we do not see what is actually happening outside what we expect. This has significant implications when harmful or dangerous situations start to occur but are unnoticed.

People are prone to “change blindness”. Workers may have their perceptions dulled by focusing on a repetitive task, or the safety practitioner or manager may just see what they always see during regular inspections or visits to the workplace. It needs a fresh pair of eyes – perhaps an external auditor – to “trip over the object that everyone else is stepping over.”

3. Silence and denial

When a young woman, Kitty Genovese, was murdered in New York, 38 people witnessed the attack, but they each presumed that someone else had called the police. Something that is everyone's responsibility ends up being no-one's responsibility. People may observe a problem but then offload responsibility to the "system" which they presume will pick it up.

Sometimes, the way in which data is reported can create an illusion of safety which belies the reality. In Mid Staffordshire Hospital, for example, only positive information was communicated upwards to management. Similarly, at the Bristol Royal Infirmary where 29 babies undergoing heart surgery died, the chief executive had actually said, "Don't bring me problems, just solutions" and, as a result, no-one was willing to raise concerns about potential problems. This can be a dangerous strategy for senior management, if they want to know what is actually happening under their watch. BP's Texas City oil refinery had the best safety record in the site's history but then they had the worst accident in the company's history when 15 people were killed and another 170 injured in a major explosion. The site became complacent: because the personal safety data was so good (and they didn't record process safety incidents such as flammable leaks and fires), they believed they were safe and nothing could go wrong. The old adage applies that, just because something has not happened yet, does not mean that it will not happen in the future.

Situational factors

4. Conflicting goals

"Do it safely – but get it done by Friday". This statement clearly gives the impression that time is a higher priority than safety. Most workers will get the message as to what the manager or organisation values most, and will act accordingly. Efficiency and safety can appear to pull in opposite directions, and too often safety suffers during times of financial constraint. The ideal business model is one where safety, productivity and innovation are all held in the right balance. When production is rushed and an incident occurs it can often take more time to rectify the situation than it would have done to put safety as a higher priority. It can be said that an incident does not occur every time an operation or task is rushed, whereas the opportunity to do the operation or task safely is always there.

5. Decisions taken at too low a level

In some organisations, risk-taking is increased by allowing junior staff to make decisions which should be the responsibility of senior management who (hopefully) have greater experience and a broader understanding of risks and consequences.

6. Boundaries and silos

Good communications within an organisation are key to effective safety and health management. If groups or departments do not interact, vital warnings may not reach those who should be taking action. In the friendly fire case study mentioned above, there were poor communications between the army and air force: their radios were incompatible. Such awareness will enable information to be disseminated through the most effective channels while, at the same time, revealing missing links in the chain of communications.

People tend to drift away from documented processes and make small adaptations or interpretations. There are four key points that can help prevent this drift:

1. Standardise processes, language and documentation.
2. Set clear goals and plans.
3. Establish continuous communication of the points above.
4. Share the values and beliefs of management.

7. Learning from hindsight

Following a major disaster, the investigation is able to uncover the chain of events which led to the incident and, if needed, apportion blame to individuals and/or organisations. What may not be appreciated is the full complexity of the scenario – the causal factors that appear so obvious with hindsight were often hidden or forgotten at the time. If the response to an incident is the introduction of yet more systems and procedures – the “Maginot approach”, named after the long line of defences between France and Germany between WW1 and WW2 – the complexity of operations increases. This makes another accident more, rather than less, likely, as people either do not understand the processes or look for quicker, easier ways of doing things.

Over-long reports can also be counter-productive. The report into Mid Staffs ran to 1,782 pages with 259 recommendations. To quote Winston Churchill on an earlier document of similar proportions, “This report by its very length defends itself against the risk of being read.”

A culture of blame when mistakes are made will prevent people from reporting incidents or risks.

There are more positive and effective examples of responding to a major event. Following a release from the THORP plant, Sellafield’s management returns each year to review “how far we have come”. Each member of staff is issued with a Black Book of incidents which keeps the possibility of failure at the forefront of everyone’s mind.

Conclusion

Case studies of accidents in high-hazard environments reveal recurring underlying causes. At the base is a gradual, imperceptible drift into failure, with a cumulative build-up of small oversights, none on their own sufficient to cause an accident. James Reason’s “cheese” model likens the minor failings to holes in separate slices of Swiss cheese. If all the small holes are aligned, an object can pass right through the cheese – in other words, if small lapses coincide, they can add up to a major catastrophe.

The solution lies not in more complex procedures, but in a culture of mindfulness/alertness where people notice risks (the holes in each slice) and take action.

Summary

Continually challenging and developing our knowledge on how to be an effective leader is both healthy and desirable. The papers presented here can be used to challenge the effectiveness of leadership in your organisation.

If you are someone tasked with guiding an executive group on health and safety as a business risk, the concepts in this booklet should be both developmental for you and essential knowledge to guide, challenge and facilitate the success of your leadership team.

If you are a member of a leadership team, the articles included here should provide you with some different perspectives and opportunities to challenge whether your effective leadership skills are sufficiently developed, as well as potential opportunities to do more.

For all employees, developing your own set of leadership competencies can have a big impact on your personal success and mental wellbeing and the performance of the business.

Having the passion and courage to participate in the creation of high levels of positive health and safety performance, through effective leadership, is a goal we can all aim for.

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