



JUST CULTURE

1. INTRODUCTION

People make mistakes which can lead to accidents – including fatal ones. All too often the solution is to blame the workers involved, particularly the operational staff at the sharp end. Their mistake may be easy to recognise and their action, omission or departure from an instruction established quickly. So, if we identify who erred and punish them, the problem is solved?

On the contrary, it is widely acknowledged that punishing people for making mistakes can be counter-productive to preventing errors because this generates a culture of fear and under-reporting.

Only a small proportion of unsafe human actions are deliberate (eg criminal activity, substance abuse, sabotage).

The reality is that the problem is seldom one individual's fault – more often than not it's a fault in the system. Mistakes therefore warrant appropriate sanctions rather than a 'zero-tolerance' dismissal. Changing the people without changing the system won't resolve the problems.

On the other hand, a blanket amnesty on all unsafe acts would lack credibility in the eyes of staff and could be seen to oppose natural justice. So a 'no-blame' culture is neither feasible nor desirable and this is where Just Culture comes in.

2. WHAT IS A JUST CULTURE?

A Just Culture is defined as one in which front-line operators and others are not punished for actions, omissions or decisions taken by them which are commensurate with their experience and training, but where gross negligence, wilful violations and destructive

acts are not tolerated.

It relies on an atmosphere of trust in which people are encouraged to report essential safety-related information – but where they are also clear about acceptable and unacceptable behaviours.

A Just Culture reflects a deeper understanding of the human and organisational factors that give rise to accidents. It turns human error on its head by viewing people as the creators of safety and recognises that



organisations get the behaviours they deserve.

A Just Culture is the essential component underpinning safety and business success.

- business success depends on managing risks effectively
- to manage risks, you need an effective safety culture
- to have an effective safety culture you need an effective learning culture
- for an effective learning culture, you need an effective reporting culture
- which cannot exist without an effective Just Culture.

3. UNDERSTANDING THE PROBLEM

To reduce accident rates, we need a deep and thorough understanding of:

- why accidents happen
- what really causes them, and
- how a Just Culture can help prevent them.

4. WHAT KINDS OF MISTAKES DO WE MAKE?

There are three key activities in which we make mistakes:

- Skill-based activity – where we are well practised in what we do. We can work without thinking too much about it and find ourselves doing something familiar (eg operating a well-used switch) when we should be doing something else (eg operating a less frequently used, but adjacent, switch). Or we can suffer a memory lapse (eg we suddenly forget what we were going to do next).
- Rule-based activity – where we have more conscious involvement with the task, and need to apply rules and procedures to what we see and do. We can make a mistake by failing to apply a rule correctly or not at all (eg misjudging an overtaking manoeuvre in an unfamiliar, under-powered car; ignoring an alarm in real emergency, after a history of spurious alarms).
- Knowledge-based activity – where we must have even more conscious involvement with our task (eg where we are attending a fire and making decisions in novel circumstances). Here, the kind of mistakes we make are often to do with the way we make sense of the situation. Decisions based on wrong interpretations of complicated or ambiguous information are usually the result of insufficient training or experience or bad communications.

A number of factors increase the likelihood of mistakes. Some of these are at an individual level, while others are organisational.

Individual influences on human error

- Inadequate rest or high stress levels – fatigue and stress reduce attention, concentration and response times.
- Insufficient training and experience – poor training or lack of experience may result in attempting to do tasks with insufficient knowledge or failing to prevent a dangerous situation developing.
- Lack of investment in training and structured

experience also contribute to a poor safety culture by sending strong signals to the workforce that they are not valued.

- Inadequate communications – successful communication is not simply a matter of transmitting messages clearly. It entails empathy on the part of the messenger to ensure the listener's readiness to hear and active listening on the part of the hearer. Much communication depends on both parties' ability to make sense of the situation they share.

Organisational influences on human error

- Inadequate time – if there is not enough time to get everything done, we look for ways to be more efficient at the expense of thoroughness. We are also likely to experience high workload, which increases stress levels and accelerates fatigue.
- Inadequate design – poor design of work procedures, equipment or user controls and interfaces increase workload, response times, fatigue and stress levels. People may also invent and use dangerous short-cuts.
- Inadequate staffing – if there are not enough people to carry out a task, workload, fatigue, stress levels and sickness increase; short-cuts are taken and the safety culture is compromised by demotivation, low morale and absenteeism.
- Management efficiency gains (in the form of reduced staffing) often result in unsafe working (in the form of short-cuts), decreased thoroughness and an increase in the number of mistakes. These are all exacerbated by fewer people having less time to prevent those mistakes developing into something worse.
- Inadequate safety culture – the most influential source of a good safety culture is the seriousness with which senior management approaches it. This includes training, staff investment, supporting a reporting and learning culture and implementing work processes that accommodate the time that safe practices need.
- Workforce mistakes increase not only because of the absence of this investment – but also because people attach meaning to the absence of the investment by their senior management.

Unfortunately, these same factors also increase the likelihood that a mistake will have serious consequences. This is because the factors also interfere with the ability to recover from mistakes. For example:

- the fatigue that prevents a control room operator

spotting a potential incident can also interfere with their response to the emergency that develops.

The factors can contribute to a series of mistakes combining to make a bad situation worse

- a design flaw in an old instrument panel combined with an engineer's tiredness or preoccupation with difficult personal circumstances and insufficient training on using the panel could lead to the engineer selecting the wrong setting or making an incorrect reading at a critical moment.

A great deal of research has been carried out on human error and catastrophic accidents in several safety-critical industries (eg nuclear, air, road, rail, defence). A universal finding is that combinations of multiple adverse circumstances create disastrous outcomes.

The conditions and history of the organisation in which the problem occurs are the root cause – not human mistakes.

5. HOW CAN WE STOP MISTAKES FROM BECOMING DISASTERS?

There are two distinct approaches to this:

- One is traditional and assumes that occurrences are predictable and due to cause and effect.
- The other assumes that many of the things that happen emerge unpredictably from the behaviour of complex systems. This one has become more important recently.

The traditional view – cause and effect

This is still the dominant way of thinking about mistakes and accidents in our modern world and is based on cause and effect. It is possible to look at the mistakes listed for any disaster and interpret them as a complicated series of causes and effects that interacted over time and resulted in an inevitable catastrophe.

In this view, when disaster happens (or when we can imagine it happening), it seems correct to root out and fix (or pre-empt) the causes that might have bad effects.

So accident investigators use root cause analysis techniques to discover primary and secondary causes.

Meanwhile, organisational safety specialists perform risk assessments to try to avert dangerous effects of work procedures.

The results of accident investigations and corporate due diligence are typically enshrined in rule books and methodology statements that grow bigger every year.

The logic of this approach is to get to a point where

all the possible sources of error have been eliminated or covered by a rule or procedure that will prevent them from occurring.

The four problems with this approach are:

i. Efficiency usually wins – where rules and procedures collide with the need to be efficient because of economic considerations, we find ways to work around them. The more thorough the rules and procedures, the more efficiencies will be found, subject to the risks perceived.

ii. Behaviour drifts towards danger – if the efficiencies that we use to meet our schedules and targets do not result in an accident over a long time, the organisation may drift – often unnoticed – towards and across safety limits. This is sometimes referred to as complacency. However, labelling it as such and issuing warnings about it is highly unlikely to challenge those of us who, as far as we are concerned, are operating within acceptable levels of risk.

iii. When mistakes are made they are invisible – an error is usually only noticed or labelled as such when it has already contributed to a catastrophe. Before that, it is simply one of many actions or decisions made as part of the smooth, efficient flow of workplace activity.

iv. Accidents keep happening anyway – however explicable accidents are seen to be in terms of causes and effects after they happen, the fact is, nobody saw them as such at the time. Furthermore, despite all we have learned from cause and effect analysis, accidents and incidents still occur.

Each of these four problems has the benefit of hindsight – the illusion that the world is completely predictable.

Hindsight is a useful tool for historical investigators, but of no value whatsoever to anyone who is at the point of a decision. This is because when we are required to decide or act, we do not yet know the significance of our decision.

Only history will tell us – or others – if our decision will be interpreted as a mistake. At the moment of our decision, we can only be guided by the sense we can make of our situation (based on our training, experience, and immersion in our organisational culture) and the risks we are willing to take.

Cause and effect analysis makes sense of history with the benefit of hindsight, allowing feedback to be gathered about the effectiveness of people's actions and to learn from those that can be reclassified as mistakes.

However, when it comes to helping people in the live,

real-time environment of the workplace, it is less than adequate, and may actually be a hindrance.

This is because a rule created to prevent the repeat of a past mistake is rooted in the circumstances that generated that mistake. If those circumstances are rare or do not occur again, the rule may be seen as additional bureaucracy that must be worked round in the interests of efficiency.

The modern view – systems thinking

If the world is not completely predictable as a series of causes and effects, how can it be understood sufficiently well to stop serious mistakes? Doing so requires a shift of view because of the way in which the world has changed in recent years (see Annex 1).

This shift of view emphasises the world as a complex system of interacting, circular relationships. This is also known as systems thinking. It is out of these interactions that behaviour – both good and bad – emerges.

This system view has a number of important points relating to humans and the organisations they create:

- i. Humans create safety – people are not seen as sources of error so much as the creators of safety. This recognises that there will always be gaps in any system because designers and rule makers cannot envisage all situations and contingencies. This means that human operators must be given some degree of freedom to cope with the unexpected. In turn, this increases the need for the human operator to identify and manage the risks that arise.
- ii. Organisations are organic – organisations are not static, and safety emerges continuously from the overall behaviour of an organisation's interacting components – including its people. Many forces, such as political or economic concerns, can cause an organisation to drift away from health and safety. A good safety record can lead to complacency, allowing risks to grow unseen. Perhaps the most common threat to safety is when change in one part of an organisation's functioning unwittingly disturbs functioning in another part of the organisation.
- iii. Organisations create behaviour – organisations are seen as operating within a commercial framework including shareholders, unions, financial institutions, competitors, suppliers etc. They also operate within a legal, regulatory and political framework – several frameworks if they operate in multiple countries. Other influences include the social and demographic factors that contribute to the educational levels of new recruits

and the difficulties of recruiting, motivating and retaining staff. There is also the behaviour of the public and the incidence of crime, terrorism, vandalism and much else. Last, but not least, the technology provided by an organisation also produces its own influences on the roles, abilities and expectations of its users as well as the entire organisational culture.

iv. Organisations get the behaviour they deserve – this is because any given organisation (system) is capable of generating a range of outputs, all of which emerge from the interaction of its parts. In a healthy organisation, most of these outputs will be relevant and beneficial to the organisation. Sometimes, the emergent behaviour may seem surprisingly beneficial, eg when someone discovers a new and highly efficient way to accomplish an important objective. But sometimes the behaviour that emerges will turn out to be adverse, eg when an accident happens. In every case, the behaviour that emerges from an organisation is always within the range of its own natural variability. Both highly beneficial and highly adverse behaviour should be expected: they are two sides of the same coin.

6. PROTECTING ORGANISATIONS FROM THINGS THAT HAPPEN

Rules and procedures are designed to limit system variability. If they are followed, they may help to avert accidents up to a point, but they also prevent beneficially novel behaviour from emerging too.

As organisations, including their people and technologies, become more complex and tightly bound together, the potential for unpredictable adverse behaviour with knock-on effects also increases.

At the same time, the increasing number of rules demanded by the traditional cause and effect view becomes less and less effective and counterproductive as people search for more efficient ways through the bureaucracy.

Recent research into the resilience of some safety-critical organisations revealed some of the reasons why the more successful ones have far fewer accidents than they should.

The three reasons are:

- **Expertise must be developed, retained and exploited.** In the face of pressure for greater efficiencies, people at all organisational levels work hard to understand the routes to failure and develop alternative strategies, while all the time creating and maintaining whatever safety margins they

can. Central to their success is the depth of their expertise. It permits them to read complex situations, project into the future and follow timely and effective courses of action. Organisations that fail to invest in developing such expertise, or fail to protect their experts from the legal and corporate consequences that flow from the decisions they took in good faith, will ultimately fail economically. The experts will leave as soon as they perceive that the risk to them is too great.

- **Organisations must pay attention to their ‘fault lines’.** Assessment of the risks of operational error or adverse events often miss the point that the real risk to safety-critical operations is in the interfaces – the natural fault lines – between an organisation’s different parts. These include the fault lines between training and practice; managers and operators; designers and users; boards and their workforce; efficiency and thoroughness. Focusing on the real risks is one challenge. Another is knowing how these risks are changing over time and, in particular, how far the organisation is drifting towards dangerous levels of behaviour. Many organisations collect data on accidents and near misses. However, most then analyse this data for ‘missing’ rules rather than to optimise interfaces or detect and correct dangerous drift.
- **Decision making must be based on systems thinking.** All safety-critical industries are formed of different organisations which must interact successfully. In the absence of applied systems thinking, organisational decisions are taken that are locally optimised (ie too focused on a small part of the problem) at the expense of global effectiveness. There are countless examples of this – mostly driven by apparent opportunities to save money in the immediate future.

It is clear that it is normal for us to make mistakes. It is also clear that wider organisational factors play a huge part in helping to create our behaviours – including our mistakes. These twin realisations have allowed a new approach to safety management to emerge in recent years.

The key insight is that safety-critical organisations need to shift from a blame culture to a Just Culture.

7. TOWARDS A JUST CULTURE

A Just Culture is founded on two principles, which apply simultaneously to everyone in the organisation:

- human error is inevitable and the organisation’s policies, processes and interfaces must be continually monitored and improved to accommodate those errors
- individuals should be accountable for their actions if they knowingly violate safety procedures or policies.

Achieving these two principles is enormously challenging. The first principle requires a reporting system and culture that people can trust enough to make the necessary disclosures. Their trust develops out of the way the second principle is implemented – specifically how the organisation defines, investigates and attributes accountability for whatever its staff disclose.

Disclosure is therefore important. Yet what might influence a decision to report, or not?

Yes, report it!	No, hide it!
Don't want situation to get worse	I might get fired
I know i'm supposed to	Nothing will change
Somebody saw me make the mistake	I'll look foolish
It might happen again	I might be demoted / lose my authorisations
I might get thanked	Nobody noticed
I think it's a legal requirement	It's not important
It's easy to complete a report	It's too difficult to report

The most common reasons for not reporting are that it makes no difference (nothing will change) because people never get any feedback; it's too difficult, because of an unwieldy reporting system; or the fear of looking foolish, which is why in aviation the law requires the investigation system to be confidential.

8. HOW SHOULD ACCOUNTABILITY BE ASSESSED?

Honest mistake or negligence? For the purposes of assessing accountability, many professions try to differentiate between mistakes which are honest (eg due to lack of training or experience) or negligent (eg due to lack of diligence or attention).

Unfortunately, the problem with negligence is that there are many organisational reasons why an experienced person might break the rules or be distracted at a critical moment. In the end, the line

depends on who draws it – and for what reason.

Legal accountability – A major problem in examining an incident in terms of its historical chain of presumed causes and effects is that the story often suffers from the powerful effects of hindsight bias. This bias results in:

- causality being oversimplified
- the obviousness of the outcome being overestimated
- the role of rule violations being overestimated
- the relevance of information used (or not used) by people before the incident is overestimated.

When a legal approach is used to investigate cases of negligence, the outcome is almost never just and safety usually suffers.

The accuser tends to fashion selected evidence into a simple story that is focused on the accused, who ends up as an organisational scapegoat. This outcome produces fear and mistrust, discourages further safety reporting and drives unsafe behaviour underground.

Criminalising honestly made professional error is counterproductive.

Organic accountability – Accountability in a Just Culture is assessed by investigating how actions and decisions made sense to each involved person at all levels of the organisation at the time of the incident, and what changes the organisation could consider to prevent them from contributing to a mistake again.

Reporting is supported by debriefing programmes to help cope with trauma.

Investigations are conducted by expert practitioners who have deep knowledge of the technical demands of the incident and are schooled in hindsight bias.

Techniques such as ‘substitution’ may be used in which experts can mentally place themselves in the incident to decide what, reasonably, they would have done. The different perspectives may then be assembled into a mosaic to form a rich picture of the incident.

However, it should be noted that no-one had this picture at the time of the incident and it is only useful to help consider what systemic changes might be necessary.

9. WHAT ARE THE AIMS AND BENEFITS OF A JUST CULTURE?

Just Culture programmes have been initiated in many safety-critical sectors, notably aviation, nuclear and health.

These programmes usually describe a journey together with supporting tools designed to change the

safety attitudes of the entire workforce.

The journey is typically depicted as moving through a number of organisational approaches to safety. This may start with the pathological stage, where people don't really care about safety at all and expect someone to get sacked if there is an accident.

The end of the journey is the generative stage where people actively seek information and failures lead to far-reaching reforms.

The benefits of a Just Culture are:

- increased reporting of unsafe incidents and accidents – including trends that indicate future problems
- increased trust between all levels of the workforce – which accelerates the organisation's journey towards greater safety maturity
- decreased adverse incidents and accidents
- decreased operational costs – due to safer behaviour, higher workforce motivation and morale and increased productivity.

10. WHAT ARE THE OBSTACLES TO DEVELOPING A JUST CULTURE?

The journey to a Just Culture involves some difficult challenges.

Research carried out in several safety-critical industries shows that a central task is designing an incident reporting system and integrating it with a process for assessing individual accountability across the whole organisation.

The new reporting system may be quite different from any existing incident reporting system.

Another key task is to design easy-to-use diagnostic and reflective tools. These help the workforce at all organisational levels to understand where they are in the journey and the nature of the gaps between their current attitudes and behaviours and those they need to acquire.

Tools are needed to support the acquisition of the required behaviours and aim to improve the following:

- operator and manager behaviour
- safe working
- supervisory behaviour
- rule-breaking
- situation awareness
- understanding and assessing personal risk
- making change last
- seeing yourself as others see you
- understanding your own organisational culture.

It is no accident that the same qualities that make

us human are also the main focus of enlightened organisations' recognition that their employees need to work together equitably within a culture that is seen as 'just' by all.

11. DEVELOPING AND MAINTAINING A JUST CULTURE

The journey towards a Just Culture requires sensitive engagement of the workforce, including meaningful consultation.

Key features that need to be addressed when developing and maintaining a Just Culture include:

Addressing corporate and legal issues

- obtain unambiguous boardroom commitment
- create indemnity against legal proceedings for incident reporters
- separate reporting system staff from disciplinary staff.

Designing and integrating a reporting system

- document Just Culture policy
- identify responsibilities and incident report investigators who have expertise in safety, operations, management and HR
- create a rapid, efficient reporting process that captures and yields useful information at the right level of detail and includes union health and safety representatives
- create a clear, easily accessible process that will be used and trusted
- define what is acceptable and unacceptable behaviour (these will be specific to, and aligned with, values derived from national, organisational and professional cultures)
- create investigative and assessment processes that involve the trades unions for deciding accountabilities and action
- agree with trades unions the sanctions for unacceptable behaviour.

Developing, promoting and rolling out a reporting system

- identify and assign development resources
- identify champion(s) and a communications strategy
- educate users
- monitor breaches of the policy (eg error punished or violations excused)
- collect feedback from users
- feedback useful results to users at all organisational levels – including impact on production, efficiency,

communication and cost benefits

- apply fair treatment.

Human error	Console
At-risk behaviour	Coach
Reckless behaviour	Punish

12. FURTHER READING

The concept of Just Culture was first developed by Professor James Reason. It is used widely in aviation and medicine and has been evolved by many industry experts, notably Professor Sidney Dekker.

HSE

- Human Factors <http://www.hse.gov.uk/humanfactors/topics/culture.htm>
- Human Error <http://www.hse.gov.uk/humanfactors/topics/types.pdf>

CAA

- Information <https://www.caa.co.uk/Safety-initiatives-and-resources/Working-with-industry/Human-factors/Human-factors/>
- E-course <http://www.caainternational.com/training-services/just-culture-online-e-learning-courses-1>
- You Tube film What is Just Culture? <https://www.youtube.com/watch?v=ugl9FaBOIKA>

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ANNEX 1: HOW IS THE WORLD DIFFERENT NOW?

- Recent developments in our increasingly globalised world emphasise the need to see it as a complex system of interacting, circular relationships rather than a linear sequence of causes and effects. What developments led to this view?
- Rapid technological change – Technology is changing too fast for managers and engineers to keep up. This is affecting many parts of industry, eg increased use of artificial intelligence to automate systems, track, monitor and find faults.
- New ways to fail – Digital technologies create new kinds of failure and new kinds of accident. The traditional safety engineering approach of using redundancy to minimise risks does not work with computer systems, for example, where redundancy

adds complexity and actually increases risk.

- Bigger disasters – The scale and expense of modern systems means that the human and financial harm resulting from accidents is becoming less acceptable. Learning from experience is not tolerable and the emphasis must be on preventing even a single accident.
- More complexity – The development of highly complex systems frequently means that no one person understands the whole system or has complete control of it. Furthermore, the circumstances of their use can never be completely specified and the resulting variability of performance is unavoidable.
- More serious knock-on effects – Systems are increasingly tightly linked. This means a disturbance in one part of the system can have rapid, far-ranging and unpredictable ripple effects. It also means that many adverse events cannot be attributed to breakdown of components, but may be the result of unexpected combinations of performance variability that is essentially normal. In this view, adverse events are simply the other side of the coin from equally unexpected but beneficial events.

ANNEX 2: THE SAFETY CULTURE LADDER

The safety culture ladder is a safety maturity model that was adopted by the oil and gas industry. Its five stages and their characteristics, starting from the top (most mature) are:

Level 5: Generative

- Managers know what's happening – the workforce tells them
- Bad news is sought out so failures can be learned from
- People are constantly aware of what could go wrong

Level 4: Proactive

- Resources are allocated to anticipate and prevent incidents
- Management is open to bad news, but still focused on statistics
- The workforce is trusted and feels involved in safety

Level 3: Calculative

- There are lots of audits and lots of data to describe things
- The new safety management system is assumed to be sufficient
- People are surprised when incidents still happen
- Bad news is tolerated

Level 2: Reactive

- Safety is taken seriously every time there is an accident
- Managers try to force compliance with rules and procedures
- Many discussions are held to reclassify incidents
- Bad news is hidden

Level 1: Pathological

- We leave it to the lawyers or regulators to decide what's OK
- There are bound to be accidents – this is a dangerous business
- If someone is stupid enough to have an accident, sack them
- Bad news is unwelcome – destroy the messenger

ANNEX 3: HOW MUCH DO YOU KNOW ABOUT HUMAN ERROR?

Test yourself with this true or false quiz

1. Human error is inevitable.
2. People cannot easily avoid those actions they didn't intend to commit.
3. Errors are causes rather than consequences.
4. Many errors fall into recurring patterns.
5. Human failures that happen in one industry are different to failures that occur in another.
6. Experienced personnel are less likely to fail.
7. In studies of major incidents, the same or similar events have often occurred before.
8. The failures of management are at least as important as those committed by front-line staff.
9. There are certain situations and work pressures that lead people into the same failure.
10. The factors that cause human error can be identified.



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