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Safety Motivation – What Truly Drives People for Safety

Human Failures and Blame

As Einstein so profoundly stated, :“The world we have created today as a result of our thinking thus far has problems which cannot be solved by thinking the way we thought when we created them”(Bhaskar, 2002)”.

When it comes to workplace accidents and organisational management of risks, Einstein’s words truly hit home. Challenging old paradigms is the only way to go forward on a path of continuous improvement. After all, this is how we as humans evolved to this point; we push boundaries and take risks.

As we rapidly evolved industrially and technologically over the last several decades, the complexity involved in the interaction between people, technology, systems, and workplace environment has significantly increased. This has in turn produced a significant increase in frequency and severity of failures involving technological (hardware & software), organisational (cultural and systemic), and human factors (errors and violations). Some of those failures produced relatively low consequence, localised individual accidents; however some have resulted in large, systemic organisational accidents such as Bhopal, Chernobyl, Deepwater Horizon or more recently Fukushima nuclear disaster. Those and other organisational accidents caused large loss of life, significant adverse media attention and financial losses.

From the accident causation point of view, the human failure (error) was always at the epicentre of attention throughout the industrial history. Focus on accident causation commonly stopped with allocation of blame to an individual and rarely ventured into what might have caused specific human decision, behaviour or an action. Although in many ways poorly understood, Heinrich’s domino accident causation theory conceived in 1930’s significantly contributed to a ‘human at fault’ view in accident causation by focusing on personal factors such as individual ‘accident proneness’, and individual personal ‘character flaws’.

Whether in the case of a plane crash or a slip, trip and fall accident, over time the ever present ‘human failure’ became common main ‘root cause’ of many accidents. It was often taken as a factor which cannot be further analysed, improved, changed or influenced, absolving along the way various dormant or active organisational, leadership, cultural and systemic issues from responsibility. The resulting practices become a tradition in safety management – hazard hunts and blame the person.

This truly gave a real meaning of the expression: “if the hammer is the only tool you have, everything starts to look like a nail”(McRaney, 2012).

Over the years, this thinking inevitably created a damaging ‘human at fault’ culture, further feeding and reinforcing human failure as a main root cause of accidents amongst many professions, especially in safety and with those responsible for direct management of people and material resources – senior and line operational management.

Sadly, the power and convenience of such beliefs are so strong, even today we are still struggling to escape this vicious circle and ill all likelihood we will probably continue to struggle with it for a long time.

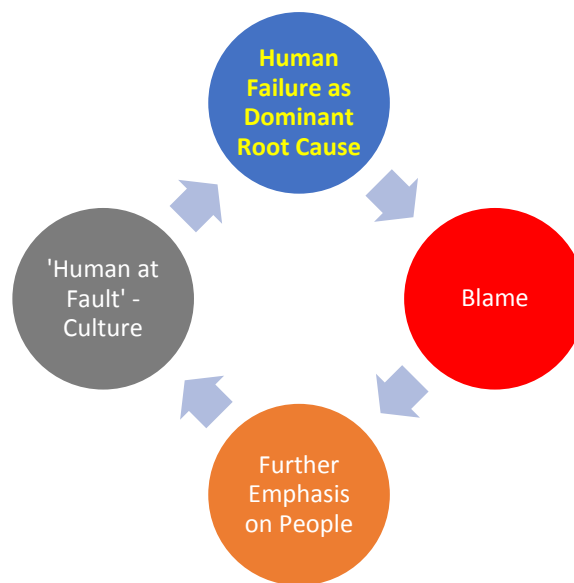


Figure 1. – ‘Human at Fault’ Culture (Self Feeding Circle)

Of course, today we now know that human failure is not always the core issue or even one of the root causes, but usually a symptom of much larger dormant and active failures present within the workplace systems, processes and the organisational culture. Modern accident causation theories such as Swiss Cheese Model (Reason, 2008) and work of several prominent human factors experts such as Rasmussen and Reason provide us with in depth knowledge necessary to understand nature of human failures and how to defend against them through design, engineering and work systems, however the old ‘human at fault’ thinking continues to exist in organisations. It seems that despite our adaptability to new technologies we, as humans are highly reluctant to except changes and challenges regarding how we see the world or perceive ourselves and our actions.

Some of the reasons associated with such persistent focus on human failure and blame can be identified as:

- **Fundamental Attribution Error**

Fundamental attribution error (Cherry, 2014) is an inherited human condition and a tendency of assigning blame to a person by placing the emphasis on internal characteristics before the systemic or environmental issues are examined. All humans are susceptible to fundamental attribution error as it is ingrained to some extent from our upbringing and highly socially transferable, although the actual intensity, extent of its presence and influence tends to vary across cultures and religions.

Two critical beliefs are at the core of this behavioural process:

1. Just world hypothesis (Reason 2008) – belief that people deserve what they get (good or bad) and,
2. Illusion of free will – a firmly entrenched belief (at least in western society) that people are mostly ‘free agents’, fully in charge of their destiny and actions, in almost all circumstances. This common but not always accurate view of availability of choices and individual actions is strongly supported in western society which is reflected through courts and justice systems. Although modern science and understanding of human factors is starting to influence and challenge this view for a change, it is still firmly entrenched in individual beliefs, affecting the view of humans and individual actions in the workplace.

We often tend to overestimate our control and underestimate influence of external socio – technical and other factors, as illustrated through following example.

An operator breached the isolation procedure by not isolating and locking out a known isolation point. He knew the procedure and chose to take a chance as he believed at the time that likelihood of harm was very remote. As it turns out, no actual incident occurred, however the potential was there and an important procedure was breached. The operator’s defence was that in his view the risk was low, work pressures were high, deadlines for job completion were about to expire, etc. Common view of decision makers would be that whatever the circumstances, the person had made a conscious choice to violate critical rules and had a number of other choices at his disposal, including stopping the work and escalating issues to a higher level of management. It is not difficult to view the world this way; after all, we always have a choice, right?

The investigation has however shown that a crew supervisor had a particularly authoritarian leadership style and ensured that any communications ‘leaking’ outside of the crew was dealt with by a number of punitive actions such as ostracising from the group, selective job allocation, withholding of overtime and training and micromanagement. Not finishing the job on time for any reason was seen to be a ‘cardinal sin’, usually resulting in some form of formal performance management. Such was the shift individual sub culture in operation. The crew and the supervisor had a very high turnover of personnel. The operator in question also had severe financial difficulties. Potential of losing his overtime seriously threatened his ability to maintain his mortgage repayments and not being part of the ‘inner group’ of the team was perceived as a significant emotional punishment.

When seen from this perspective, in some cases human actions in the workplace can be significantly shaped by a range of external factors and influences. Sometimes, free will can be anything but free.

- **Emotional Comfort and Convenience** – blaming people is far more emotionally satisfying than rationalising complex systemic, leadership and socio - technical failures which are usually responsible for an accident. A person has a name and a face which people can identify with, assign blame and internally ‘close the issue’. Sadly, in many cases allocation of blame is easier than prolonged and complex systemic reasoning. People are wired to try and reduce emotional distress as much as possible. Unless specifically trained and cognisant of our tendencies, it is difficult not to succumb to it, especially in circumstances where the stakes and emotions are high and evidence lacks clarity. In addition, careful evaluation of

systemic factors can trigger an array of negative emotional responses from others, further driving potential emotional distress and efforts to focus on human factor.

- **Lack of understanding of the nature of human failures** – It is easy for people to be believers in ‘human at fault’ principle if they have not received appropriate training in principles of human factors. There is enough science behind human factors and behaviour today to make this type of training mandatory for many occupations, especially for people operating at the management levels. In addition, much can be gained by spreading the knowledge to employees at the sharp end.

Safety Motivation and Violations

In relation to workplace accidents and free thinking, the illusion of free will tends to be a specifically powerful disabling factor. It focuses attention only on workers’ intentions, actions and outcomes of those actions. If an action is seen to be unintentional (such as slip or a memory lapse) the outcome of actions can often be blameless, although it is not uncommon to apportion blame even for these basic human failures. If the action is seen to be intentional (various types of mistakes and violations), blame is often automatically assigned by applying reasons discussed above.

One of the most dangerous and persistent assumptions associated with well-intended but wrongly executed actions is about the lack of individual safety motivation. This commonly made assumption erroneously links execution failure with safety motivation and presumes that people do not want to be as safe as much as they should and are simply ‘not caring enough’, because if they did, they would not act as they did and the accident would not have occurred.

Assumption is verbalised by describing people as careless, unsafe and irresponsible or simply accident-prone. People arrive to this conclusion through various observations and rationalisation of information received from accidents. Whilst this rationalisation is in operation, a number of internal, subconscious processes are influencing formation of this perception and eventually a conclusion. Some of those are individual risk perception, view of the world, life experiences, work cultural influences and many others. All of them combine with three key factors outlined above to produce ‘person at fault’ perception, often even if evidence points elsewhere. The benefit and presence of 20/20 hindsight is a key part of this internal mechanism, manifesting itself in the background by thoughts such as:

- “He or she should have known better”
- “He or she has been warned of this before” or
- “Anyone should be able to see the risk and predict this will happen”.

Thanks to the work of psychologists and human error experts such as Rasmussen and Reason, we know today that linking intentional actions with safety motivation is often incorrect. Wrong outcomes occurring through well intended actions arise through an array of different causal factors, even when a person’s safety motivation levels are very high. Various forms of human cognitive failures such as rule and knowledge based mistakes are perfect examples of this.

Predisposition to ‘human at fault’ culture is present in all layers of society. Health and Safety professionals and psychologists are also susceptible to same human failures, assumptions and

preconceived views. Over the last few years, this author has had many conversations on this subject with safety professionals at all levels, with interesting results. There seems to be a sizeable percentage of safety and health professionals who still hold the following rationale:

“Individuals control their own actions on the floor, and that is the challenge for any safety professional - how do we get someone to want to be 'safe' - at least as much as we want the them to be safe?”

For the good part, this rationale arises as a result of dealing with the complexity of human factors and consequences of accidents. The levels of frustrations safety professionals experience are often very high whilst trying to influence and instil positive safety behaviours. Most of them deeply care about people, hence the reasons why they choose safety as their chosen profession, however caring is simply not enough without a comprehensive understanding of underlying internal and external precursors and various contributing factors implicated in safe or unsafe behaviours.

The assumption that people make wrong choices because they do not want to be as safe as we want them to be is incorrect and is very damaging.

Inheritably, human beings hold personal safety in high regard and actually feel emotionally very uncomfortable when they feel that their safety is being compromised. People do not want to get hurt in the workplace for a number of reasons, strongest one being a basic human instinct of self-preservation. Having said this, people unfortunately do get hurt in the workplace way too often, however in addition to normal human fallibility; the issue is not their internal motivation to remain safe, but rather a complex mixture of internal and external factors affecting their risk perception at the time immediately before or at the time of task execution. This is specifically the case in various types of intentional violations involved in breaches of rules and well understood organisational norms, where an erroneous risk perception creates a false belief in being safe – complacency.

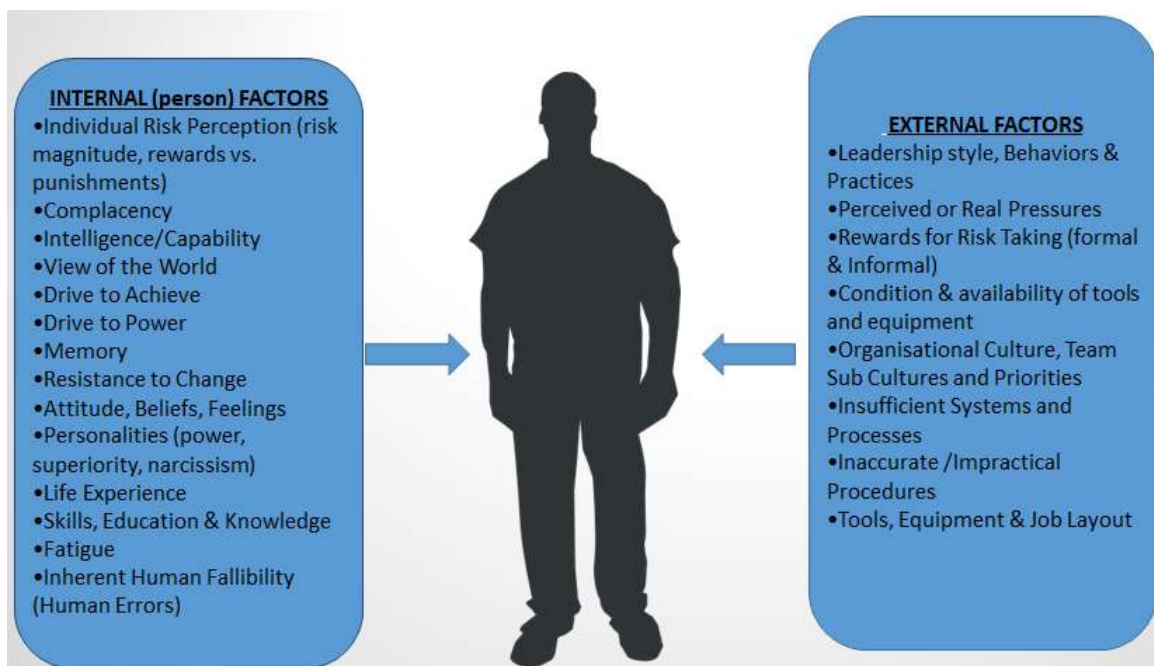


Figure 1 – Factors Influencing Individual Risk Taking Behaviour and Decision Making Processes

Internal and external factors influencing violations or ‘unsafe behaviour’ are many and some of them are more powerful than others. From the organisational perspective, careful examination of internal factors at pre-employment stages is an excellent risk mitigation strategy, specifically the use of high

quality risk predictive psychological profiling and smart interview strategies executed by competent and experienced personnel. Once in the workplace, internal risk factors are usually difficult to change although it is possible with application of coaching, mentoring and training in combination with competent supervision and leadership strategies.

External factors are however far more important for safety than an internal ones. Contrary to popular belief by many safety professionals and powerful projections of the proponents of behaviourally based safety programs (BBS), external factors are far more prominent in accident causation than internal ones. Their accurate identification through proper investigative practices is a different matter altogether.

Things such as availability of tools, work pressures, workplace conditions, organisational and team culture as well as leadership messages on what is really important have a profound ability to create cognitive dissonance, workplace stress and system induced violations even in people who are highly trained, competent and highly risk aware.

Most people do want to be safe and when involved in a workplace accident they do not choose to be unsafe. They just have a huge difficulty maintaining the balance between their internal and external motivational factors combined with the inherited human fallibility issues implicated in causation of human errors. When, for any reason, they fail to maintain this balance, our own starting point is often the one of judgement, fundamental attribution error and blame, hence why so many accident investigations end with the identification of human error as the 'main root cause' rather than treating it as what it truly is – a symptom.

Some organisations have actually opted to restrict a number of root causes which can be identified in accident investigations to only one single root cause. This is of course not wise and completely technically incorrect, however, what is fascinating is that when this occurs, directly or indirectly, people and their actions tend to become the most prominent root cause in accident investigations, creating a true 'person at fault' culture with all associated deficiencies and lost opportunities for improvement. Our views and preconceived ideas are a very powerful and influencing decision making factor.

Balance of internal and external factors affecting the risk views in task related decision making is especially dependent on an overall organisational and team safety culture, in particular the behaviours and actual practices of leaders which drive perceptions and practices of shop floor employees. As a result, organisations with poor safety culture experience higher number of intentional unsafe behaviours (violations) than mature and proactive safety cultures. This, however, does not mean that local pockets of excellence cannot exist even in organisations with the poorest safety cultures. In some organisations with very reactive cultures, there are cases where individual leaders and their teams really stand out in terms of safety performance, as a stark contrast to the rest of the organisation. Against the odds, they seem to manage to create a unique team sub culture capable of outstanding operational and safety excellence, although in isolation.

So what makes those leaders so different and what are their approaches in creating team success?

In author's experience, apart from their inclusive leadership styles, integrity and other critical leadership characteristics, powerful and influential local safety leaders operating in restrictive operational and organisational climates have one prominent thing in common. They all talk and walk safety as a matter of routine but also ensure that safety is always a focus in the workplace in everything they do – consistently, thus effectively promoting a state of constant situational awareness. It makes sense, as if safety is important to a leader who continuously promotes it; it

captivates others and becomes a focal point of operational discipline. Operational environments where this culture is consistently promoted experience drastically lower number of critical rule violations. In relation to violations, they are conscious, choice driven actions where the problem is clearly understood and a person decides to act contrary to written rules and procedures, organisational norms, protocols as well as expectations communicated through training and written or verbal instructions.

Violations can be grouped in three groups:

- **Internally driven** – such as risk trading for rewards, failure to understand the magnitude of risk, illusion of superiority or in very rare occasions a deliberate intention to cause harm
- **Externally driven or System Induced** – perceived or real work pressures, existing visibly or hidden culture supporting, encouraging or promoting violations, inappropriate rules and processes, authoritarian leadership styles, lack of tools, systems and processes and many others
- **A combination of those two categories**

Although not a critical factor, safety motivation is still important tool in minimising workplace violations. Throughout the evolution of OHS disciplines, human motivational factors for safety behaviours have commonly been seen from the viewpoints based on dominant psychological motivation theories such as those of Herzberg, Maslow or Alderfer. It is interesting to note that a majority of the research into safety motivation to date was focused on the actual safety motivational levels, somewhat leaving aside specific individual safety motivational factors affecting individual's perceptions of risk and creation of individual resilience to safety violations.

Safety Behaviour – Individual, Positive Motivational Factors

Individual motivation and positive safety behaviour should be understood in the context of a calculated, wilful and conscious decision making process – intent to do the right thing by performing a correct action. The actual outcome of the action is a different dimension of a task and it is dependent on a range of other factors such as conscious and subconscious mind, attention and concentration, situational awareness, external environmental factors and various causational mechanisms of human errors. The outcome of a well-intended action can either be unsuccessful (judged as error) or successful (judged as correct).

Individuals are driven for safety from a range of factors. Some, like risk perception are deeply ingrained in a person's psychology and are fairly difficult to change whilst others are readily influenced by competent and persuasive leaders.

The following factors could be considered as being main individual motivational factors for safety:

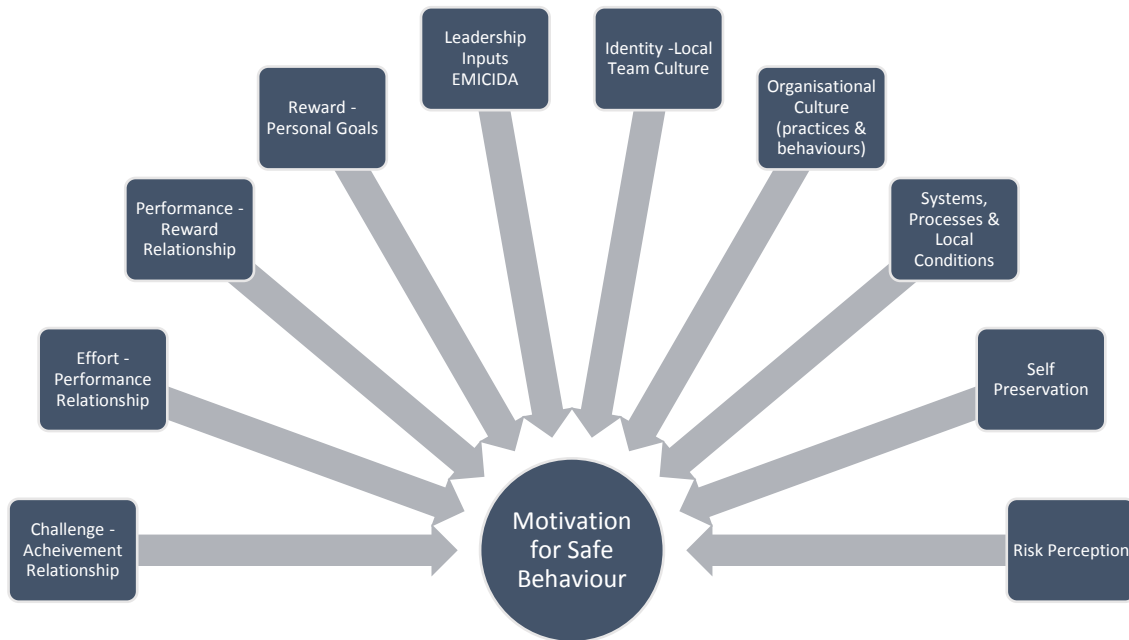


Fig. 1 – Individual Positive Safety Motivational Factors

- **Risk perception** – human risk perceptions are developed over a long time and are based on:
 1. Individual Bias (personality type, view of the world, intentions, aspirations, experience and expectations)
 2. Definition and encoding of information
 3. Interpretation of information and response
 4. Risk Calculation – balancing rewards versus losses
 5. Absence of, or occurrence of consequences

Individual bias is difficult to change however various leadership and organisation influences such as coaching, training and education can have a significant input in the way certain information is perceived, encoded and used in the risk calculative process by an individual. Carefully and accurately designed risk management training can have significant influence on how an individual perceives risks, specifically in terms of making an individual conscious of factors involved in balancing rewards versus losses in planning and decision making. In author’s experience, training in this area needs to be repeated occasionally to become effective.

In addition, leaders should apply leadership principles outlined below to reduce overall risk tolerance and increase individual’s perception of risk where required. Use of real life examples to reinforce main points is very helpful.

- **Leadership Inputs – basics of leadership (EMICIDA)**

Empowering others, mentoring, influencing, coaching, inspiring, developing and driving accountability. These critical skills are the most important factor for the overall safety performance as well as the entire safety culture in an organisation.

- **Self-Preservation**

This is a natural, human inherited sense and a very powerful natural instinct which smart leaders know how to exploit for safety by challenging risk views and making the safety important and a particular hazard directly relevant to self-preservation.

Training and awareness in the areas of risk and accident causation can be a sound strategy. Making the accidents real to people through presentations, videos and demonstrations is always a strategy worth considering, although a sensible and cautious approach is advisory. Excessively graphic and realistic methods can have counterproductive effects.

- **Systems, processes and local conditions**

In the words of James Reason: *"We cannot change a human condition, but we can change the condition under which people work in order to make unsafe actions less likely and, when they occur, to make them more easily detected and corrected"* (Reason 1990).

Not much can be added to this statement other than to say that competence of professionals involved in creation of critical safety systems and processes really needs to be at a high level; sadly this is not always the case. Leadership also needs to be mindful of the influences the local environment and team culture can exert on an individual behaviour and take active measures to identify error and violation promoting factors and deal with them promptly. Organisations which invest in error and violation resistant systems and processes tend to be safer and more profitable in the long run, and this is what truly counts in the world of business.

- **Team Identity & local team culture**

This is a unique factor capable of producing outstanding team safety, reliability and productivity results if created and supported by leadership. There are many examples in various industries where a leader with a strong will, vision and clear understanding of the key leadership principles has managed to independently create a unique, positive, team cultural identity, far surpassing the overall organisational culture. In many organisations this unique effect is recognised and used as a platform for building and setting the standard for the whole organisation. Strong leaders who create strong sub cultures are exceptional at setting the common vision, coaching and supporting team members and use of motivation techniques. They also have a very strong sense of accountability by setting their own internal non-negotiable standards and holding others accountable to agreed goals. They create a culture of expectations in terms of safety behaviours where a non-conformance to these behavioural norms is 'supervised' by team members themselves. When a person from a different safety culture is transferred to a crew with this culture, team identity and a positive 'pressure' from the group members ensures no shortcuts are taken during task execution. It is a complete reverse of a 'bad apple' syndrome and a critical factor in terms of reducing workplace violations. Much more can be said about this unique effect of leadership especially about its effects on reliability and strong operational discipline in work execution.

- **Organisational Culture (behaviours and practices)**

Overall organisational culture is a primary factor for reduction and suppression of violations and at risk behaviours. In organisations with proactive, inclusive, learning and just culture, employees are actively encouraged to take time and ensure their own safety regardless of

the work pressures and operational circumstances. If organisational practices are inconsistent with professed values, the key message to the workers (in terms of what is really important) will be what is being practiced, acknowledged, valued and rewarded. In a culture where short-cuts are condoned for a perceived production benefit, rule violations will be the norm. There is no point punishing them. Clear correlation between behaviours and practices of senior managers and those of team members is consistent across all industrial, social and military settings.

- **Reward – Personal goals**

When it comes to work execution, feelings of personal satisfaction are not to be underestimated. Just like risk taking behaviour has its own internal rewards and evokes pleasurable emotions, so does the safe behaviour and internal satisfaction of knowing that when facing multiple challenges and pressures, the team has ensured all rules were followed and everyone was safe. The more emphasis is placed on an intangible nature of safety through leadership, communication and training, the more people will be focused on this and will associate safe behaviours with personal satisfaction. Safety will become a personal goal. Again, proactive organisational safety culture is the key in promoting this effect, as it is making the safety important at all levels through observable and positive practices consistent with advertised values.

- **Performance – Rewards**

Acknowledgement and personal recognition is a very powerful motivating agent. Past practices of introducing collective safety bonuses and other financial rewards have largely been proven to be ineffective in terms of safety motivation. Monetary rewards can however be an effective safety motivator when implemented as part of the overall individual performance review.

The most effective safety reward is contained in leadership behaviour and ability to recognise positive behaviours and provide immediate praise and acknowledgement when they occur.

- **Effort – Performance**

Organisational systems aimed at ensuring that a good personal safety performance is recognised in performance reviews and is used in career planning and internal promotions are strong safety motivational factors influencing individual behaviour and suppressing violations.

- **Challenge – Achievement**

Leadership efforts in challenging people to apply their full potential is a standard motivational factor which also applies to employee safety behaviours. The more focus is placed on the importance of displaying positive safety behaviours and their recognition, the more will employees recognise safety behaviours as an achievement and will strive towards it.

A Word on Behavioural Based Safety (BBS) and Safety Motivation

In terms of commonly used business initiatives aimed at improving workers' safety motivation, Behaviourally Based Safety (BBS) deserves a mention.

Regardless of various different marketing strategies and latest terminology, BBS is essentially a psychological safety approach originating from the 1950's psychological behaviour modification theory. Its key strategy is based on observing behaviours of the workers during the task, and providing positive and negative reinforcements, depending on observable safe or 'at risk' behaviours.

In author's view, although BBS and its underlying theory has had some positive effect in Australian workplaces, its limited success is not associated with the ability to raise workers' safety motivation but rather to provide focus and awareness on safety. This is of course a secondary effect of BBS. Its primary intention (behavioural modification) has largely failed to achieve any significant results.

Increase of safety awareness in organisations came through mandatory observations which are still practiced religiously in some workplaces. The more people are talking about safety and risks, the higher their general spatial and situational awareness. From that perspective, safety observations are beneficial; however there is also a negative side to it, namely a perception that workers behaviours are the main safety problem hence having to observe them during the work tasks. In situations where workers are forced to observe each other to satisfy basic key performance requirements and at the same time observe substandard leadership and organisational behaviours and practices, all benefits are quickly lost. Even in ideal situations, BBS is known to quickly lose its momentum.

Common reasons for this are:

- **Blame**
At the core, all BBS initiatives are theoretically focused on a worker's behaviour as main accident causational factors. Various percentages are used to describe a worker's role as a main cause in causation of accidents, ranging from 88-98%. These numbers are mostly based on 1930's research (Heinrich, 1931) and have been largely been disproven by modern accident causation theories and science of human reliability. It is difficult to motivate workers for safety if the blame is located in theoretical foundation of the strategy, regardless of the fact that proponents of BBS claim that blame is not a focus of BBS. The proof is in BBS theory. One cannot have it both ways.
- **Peer Observations**
Employees on the sharp end very quickly work out that while they are observing themselves on the job, no one observes behaviours and practices of senior staff such as managers and other leaders. And they also need observing. This automatically implies that not only workers are the key issue but also that they need to 'fix' the problem themselves. It is an unrealistic expectation that peer on peer observations can change internal motivational factors of individuals or systemic workplace issues. That is a job for an organisational culture as a whole and that starts with the most senior management.
- **Panacea**

The principles of BBS and a 'person at fault' culture can create disconnection of management and affect their ownership of safety and risk, decision making and ultimately a balance between production and protection in organisations. If the key decision makers and team leaders feel even partially absolved of responsibility for workplace accidents, the safety battle is half lost.

Over commercialisation and exaggeration of BBS effectiveness has led to a number of issues, and with good reason. BBS is not a panacea but only one relatively small piece in a safety puzzle. In the author's experience, when it is taken as a panacea, BBS has a potential to overtake all other safety approaches in an organisation creating a culture of BBS absolutism. As BBS is theoretically limited in its effectiveness and it is often inadequately applied, the outcome for the organisation can be a range of unaddressed issues such as tolerance of systemic issues and unaddressed physical hazards. As the focus has shifted solely towards people on the sharp end, other, much more important organisational, leadership and systemic problems are not addressed.

For now and probably for a foreseeable future, BBS will likely remain entrenched in some organisations. Old habits die hard, however when it comes to management of risk in the workplace and individual motivation for safety, it is encouraging to see continuous increase in the concept of organisational safety culture and effects of leadership on safe behaviours. For example, a number of Western Australian organisations have adopted a concept of 'field leadership' where the focus is not so much on observing workers' behaviour but rather engagement in real, two-way conversations and dialog, giving workers the opportunity to provide completely honest feedback on a range of issues, not only on safety. This type of interaction is far more valuable than a classical BBS approach as it provides a critical opportunity to:

- Understand real causes for violations and other at risk behaviours, such as work pressures, tooling and equipment and leadership issues, amongst others
- Uncover a range of underlying issues which would otherwise remain hidden, such as pay, training, roster, fatigue and other common workplace issues
- Receive critical feedback from employees about the management performance. How would the management know how they are really doing if workers' feedback was not obtained and taken on board?

Open and honest field interactions and, 'hats in a corner' conversations are the best opportunity to exercise critical leadership functions such as motivating, inspiring, coaching and influencing which are the keys for promoting and creating safety motivation.

As we progress into the 21st century the main focus in shifting the safety and risk paradigms will be in advancing our understanding of leadership and safety culture whilst continuing to develop technology and our understanding of human behaviour, especially in psychology of human errors.

The most important key for minimising accidents and accident related losses will be an emphasis on leadership and associated training, alongside creation of organisational safety culture based on alignment between professed values and a consistent set of practices. After all, safety and reliability are not behavioural or technical problems, they are leadership problems and until this is adequately addressed nothing will truly deliver any significant and sustainable improvements.

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