BEnvOHS course - OHSE3710 (International Perspectives on EOHS)

Safety Culture Transformation

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Learning outcomes

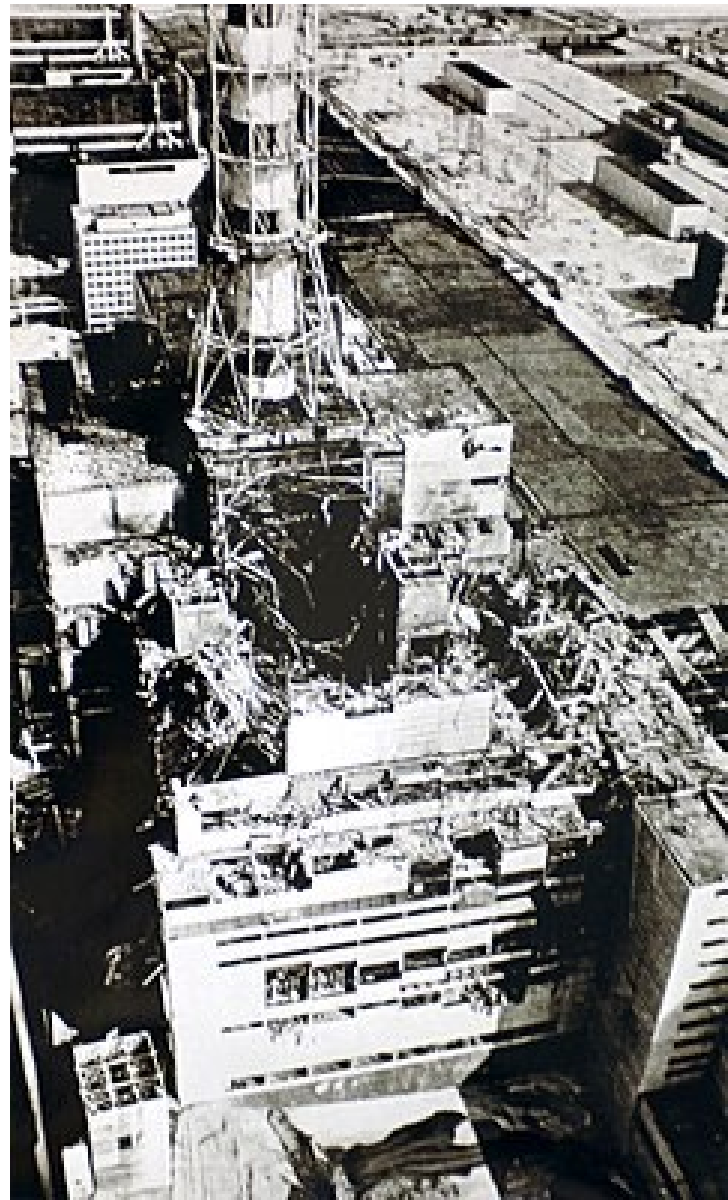
1. Understand the various interpretation of safety culture
2. Be able to distinguish different types of safety cutlure
3. Understand the characteristics of positive safety culture
4. Be able to develop and implement a safety cutlure program at workplace
5. Understand the challenges in promulgating safety culture

Understanding safety culture

The origin of the term “safety culture”

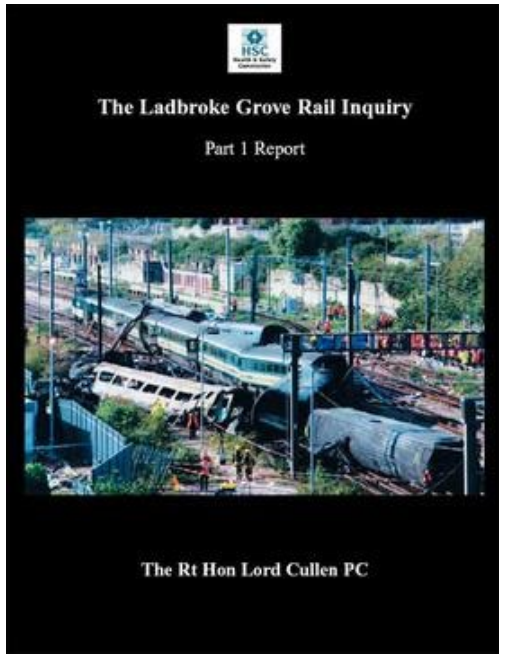
- The term safety culture was first used in the *Summary Report on the Post-Accident Review Meeting on the Chernobyl Accident*
- Apart from the unsafe behavior causing unsafe conditions coupling with unsafe design, IAEA reports identified an inadequate safety culture at all managerial and operational levels as a major underlying factor of different aspects of the world’s worst nuclear accident
- This was stated to be inherent not only in operations but also during design, engineering, construction, manufacture and regulation

The other Level-7 (the maximum severity) nuclear accidents, the 2011 Fukushima Daiichi nuclear disaster, is also found to be related to the lack of a positive safety culture



Bad accidents are related to poor safety culture, in all industries

- The 1999 Ladbroke Grove (Paddington) rail crash in London, England, where two passenger trains collided almost head-on, resulting in 31 fatalities and 417 injured
- Unsafe conditions and unsafe behavior
  - Problems with signal visibility, and its management
  - Disjointed and ineffective (SPAD reduction) initiatives
  - Problems with driver training
- Other issues
  - Train protection system, interlocking and derailment hardware
  - Response of signalmen, accident awareness
  - Regulatory shortcomings, National policy on train protection systems



The inquiry report saw safety culture as "the way we typically do things around here"; implying that every organisation has a safety culture – just some a better one than others

More interpretations of safety culture

- The way in which safety is managed in a workplace. It is the combination of beliefs, perceptions, values, and attitudes of employees share in relation to risks within an organization toward the safety of people and the overall safety of the work environment
- A culturally safe workplace has a defined set of values and principles, and demonstrates behaviours, attitudes, policies, and structures that enable all workers to work effectively cross-culturally. In a culturally safe workplace all workers feel comfortable, supported and respected

'The safety culture of an organisation is the product of individual and group values, attitudes, perceptions, competencies, and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's health and safety management.'

HSE Advisory Committee

A collective reflection of how things are getting done in an organisation

- A subculture of the organizational culture and therefore constrained and influenced by it. The safety culture may be defined as the truths, ideas, and beliefs that all members of the organization share about risk, accidents, injuries, and occupational health
- Workers and management shape the values and safety culture of an organization – everyone has a role to play
- Safety culture is what everyone does when no one is looking
- The term safety climate has been used to reflect *the perceived value placed on safety in an organisation at a particular point in time – the "mood" of an organisation, based on what workers experience at a specific time*

Safety culture is a part of organizational culture

True or false

- Workers get their habits from work
- Workers tend to bring their work habits home
- Workers tends to mimic their supervisor's work habits
- Supervisors tend to tell their manager what they what to hear
- Senior management sets the organisation culture

Workers and management shape the values and safety culture of an organization – everyone has a role to play

Workers and management set the safety culture of an organization

Quick check…

A safety culture is an organisational culture that places a high level of importance on safety beliefs, values and attitudes—and these are shared by the majority of people within the company or workplace

Is this statement or definition correct?

The term safety culture itself is neutral.
We should use “positive” safety cutlure to reflect a “good” safety culture

A positive safety culture is an organisational culture that places a high level of importance on safety beliefs, values and attitudes—and these are shared by the majority of people within the company or workplace

The inquiry report saw safety culture as "the way we typically do things around here";
implying that every organisation has a safety culture – just some a better one than others

Types of safety culture

Types of management culture

- Many types of management culture exist. The common types are
  - Forced culture
  - Protective culture
  - Involved culture
  - Integral culture
- There are no “right/wrong”, “good/bad” culture style
- Different industries/companies may adopt one or a mix of the above work cultures at different times and locations in their business life cycle

Safety culture is a part of organizational culture

Management culture can be used to describe safety cultures as well

Forced culture

- Commonly found in start up companies, workers with low safety awareness, robotic work
- Management attention focuses on legal and code compliance
- Management uses bonus and threats to motivate workers
- Health and safety officers are seen as “safety police” to catch workers doing something wrong and write them up
- Safety department tends to be large and makes most safety decisions, managers look to health and safety officers for decisions
- High turnover rate

This “carrot and stick culture” receives minimal job performance satisfaction from workers because fear seldom cultivate high-level performance

Protective culture

- Commonly found in highly regulated industries with legal liabilities, qualification-based workers, traditional public agencies
- Management attention focuses on reducing fatality and serious injuries
- Safety programs for workers focus on training and briefing of policies and procedures
- When a worker violates a policy or procedure, management's first reaction is to write more policies and procedures, resulting in more rules and work instructions
- Health and safety officers are document producers, writing rulebooks and manuals, conducting inspections and audits

Management is too busy to engage with employees,
communication is mostly top down

Involved culture

- Commonly found in large organizations with business units working in silo (vertically integrated business units), commission/ bonus-based, lone or high mobility workers
- Management attention focuses on autonomy, profit, winning awards
- Lots of training sessions for workers but seldom attended by top management
- Morale is seemingly high because management is more interested in monitoring profits and performance than behaviours; workers feel comfortable, supported and respected
- Safety department tends to be smaller, health and safety officers are seen as trainers
- They may have a lower accident rate comparing to previous years and competitors

Organizations that are “doing OK” tend to think they have a good safety culture, complacent and have little or no desire for structured, continual improvement

Integral culture

- Commonly found in matured industries with stable and growing business
- Safety training are targeting workers and top management, including the CEO
- Using maturity model to set direction and pace in safety improvement
- Health and safety officers have strong industry experience, knowledgeable in many disciplines, work closely with senior management setting goal and policy
- Safety department tends to be small; have budgets and authority

Organizations emphasize in learning, knowledge sharing, sustainability; treat workers as positive asset

Improving safety culture

We cannot change the human conditions, but we can change the conditions under which humans work, including culture

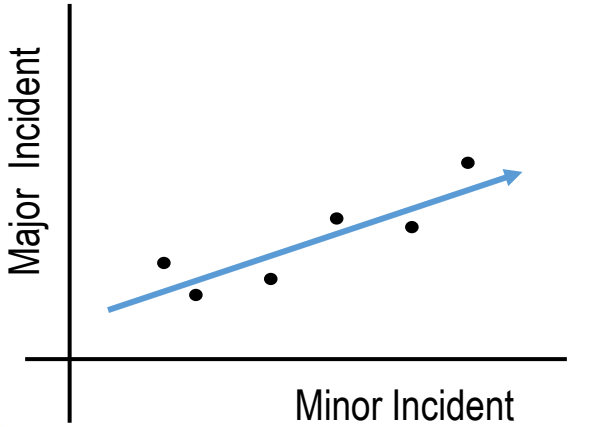
The characteristics of a positive safety culture

What does a good safety culture look like?

- Low accident rate?

Heinrich's safety pyramid theory

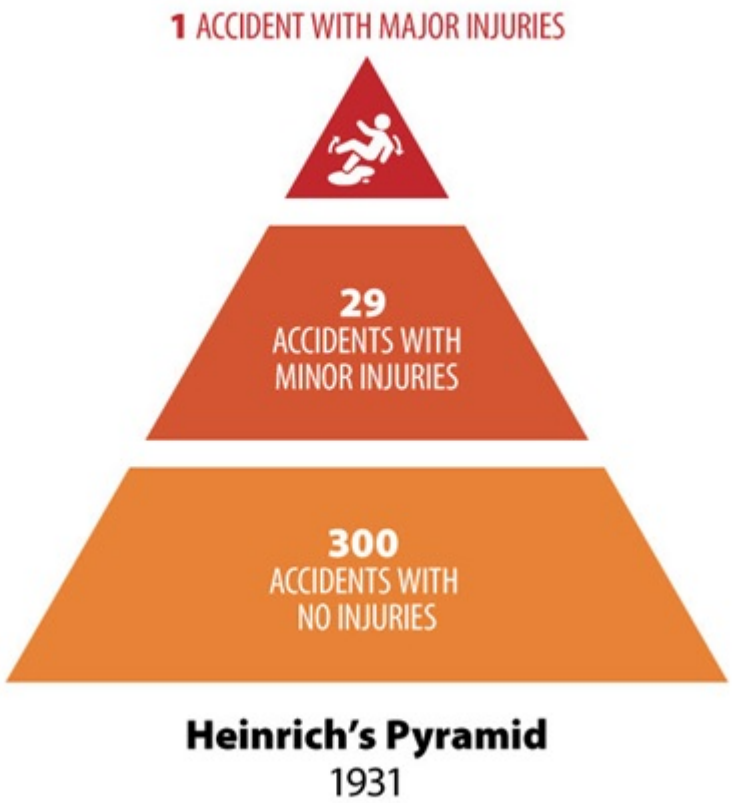
- Heinrich's Safety Pyramid theory assumes that the number of accidents is inversely proportional to the severity of those accidents:
  - Minimising the number of minor incidents will lead to a reduction in major accidents
  - Successful safety management strategies applied at the base of the pyramid will achieve reductions in the more serious categories further up the pyramid
- This led to the controversial Broken Window Theory



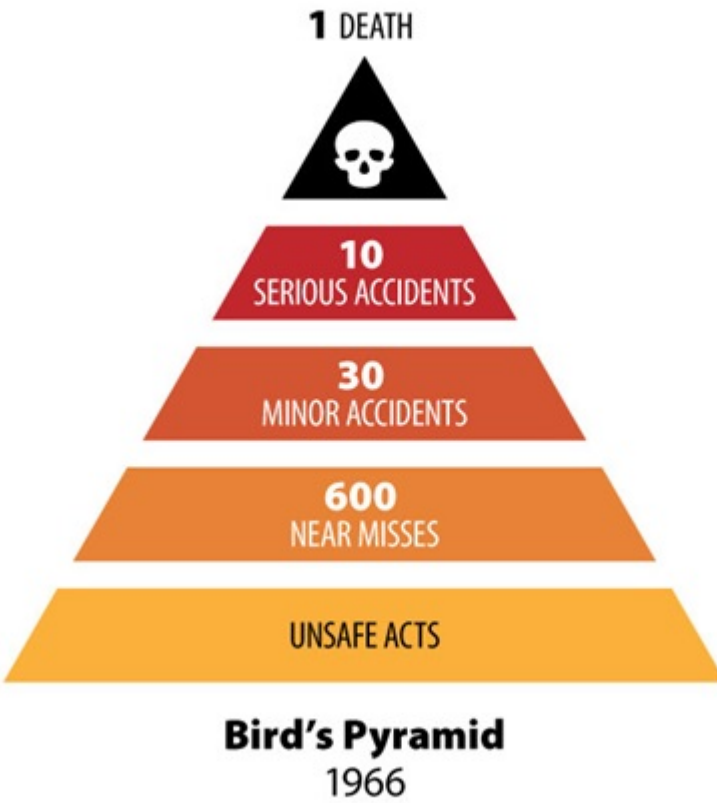
Each dot represents a company datapoint; axes not in same scale

Which theory is this?→

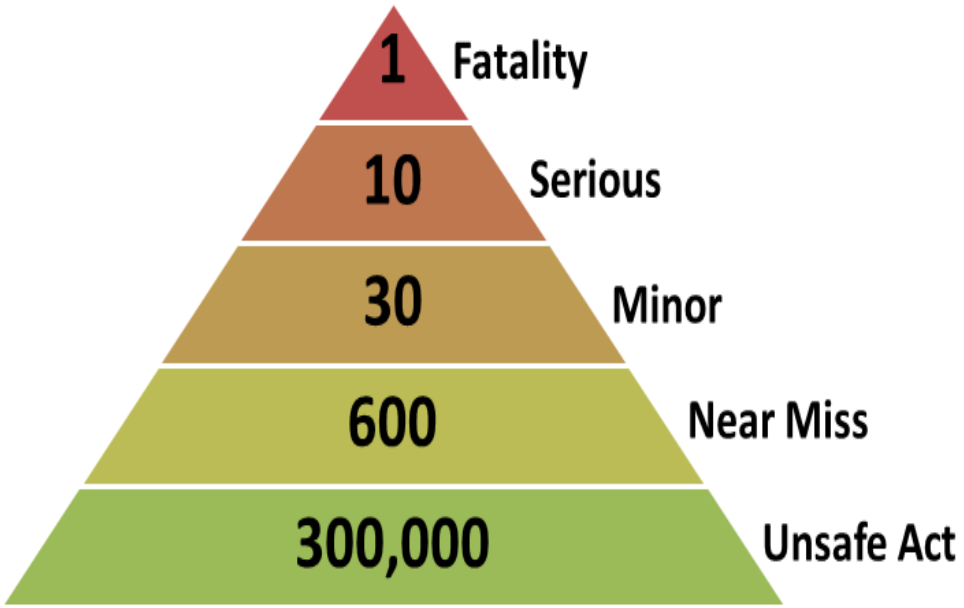
Various forms of the accident triangles



Heinrich's Pyramid
1931

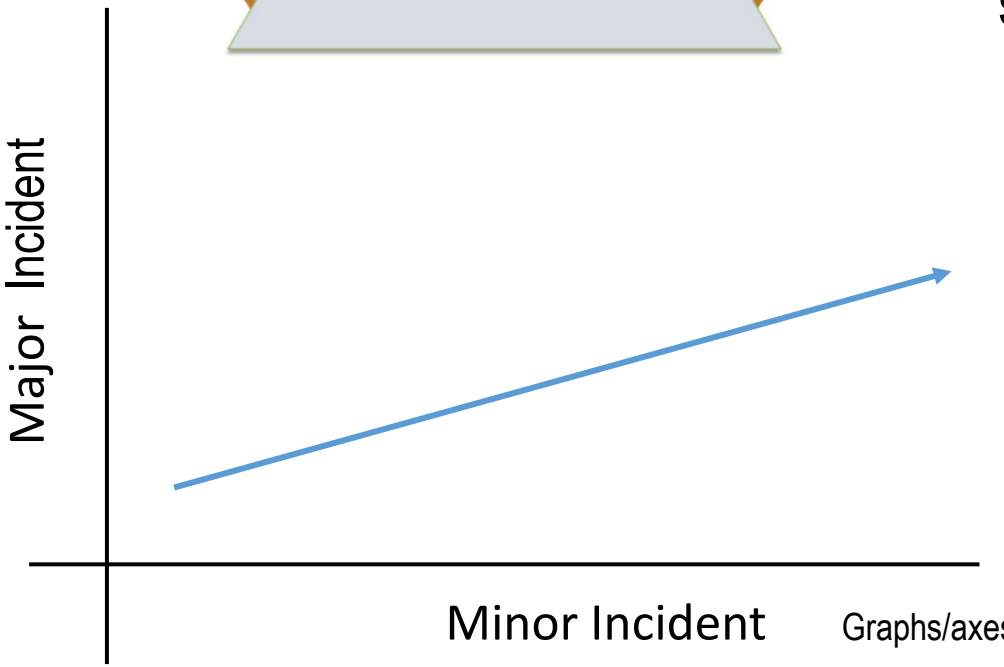


Bird's Pyramid
1966

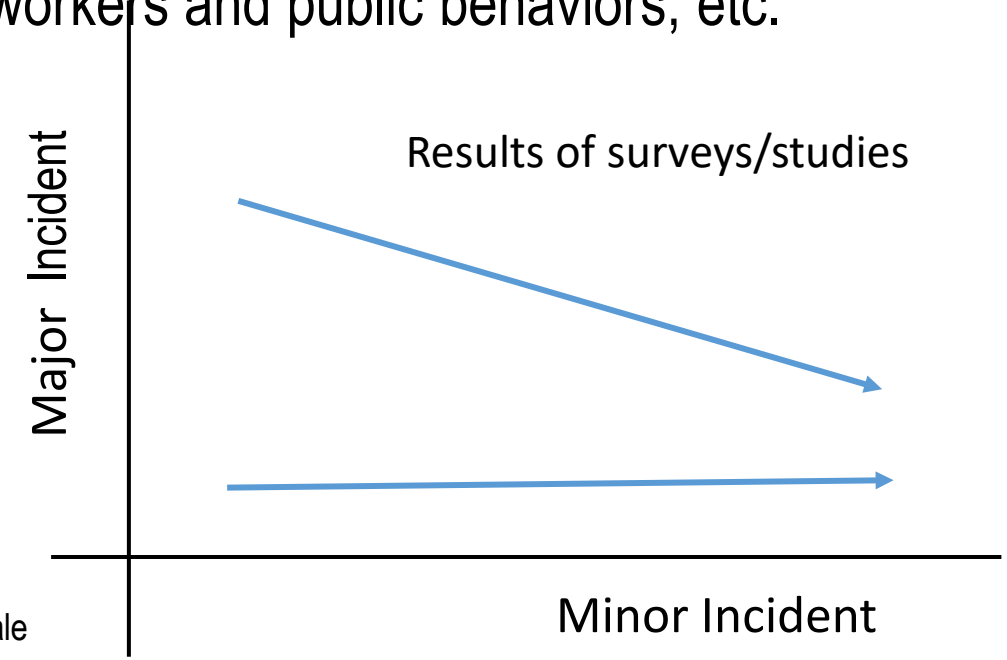


Accident statistics – Heinrich's safety pyramid theory

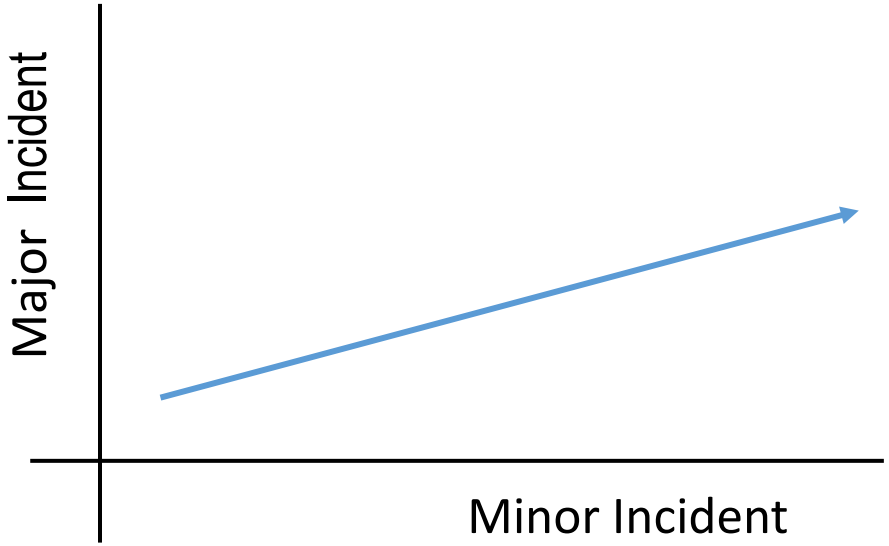
- However, this is not necessarily reflected in reality. There are factors affecting the validity of the pyramid
  - These ratios may vary considerably from one working environment to other
  - Reporting issues, the nature of operations, safety systems, workers and public behaviors, etc.



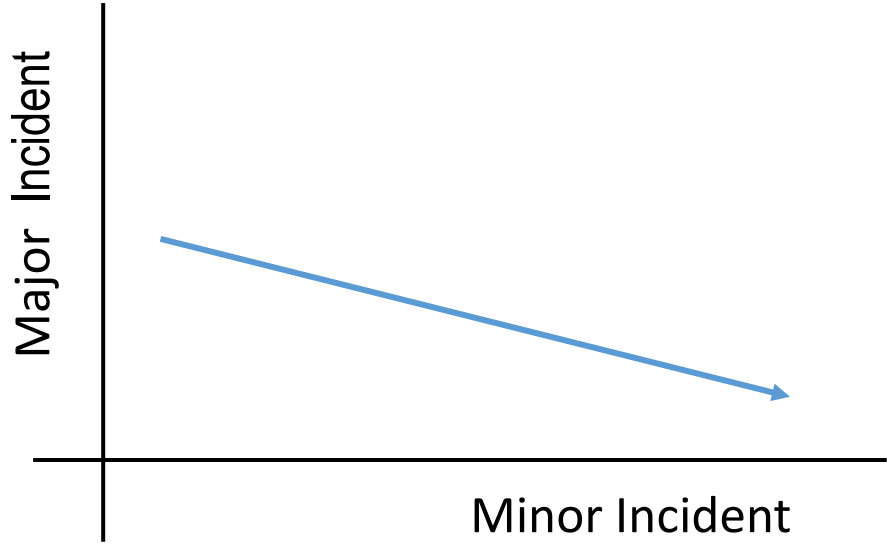
Graphs/axes not in same scale



Minor incident rate ↑ Major incident ↓ How come?



- How do you use the accident statistics?
- Is it possible to reduce accidents?
- Is there a baseline comparison with other organizations?
- Accident rate is the only KPI target?
- Investigate what is right vs what is wrong?



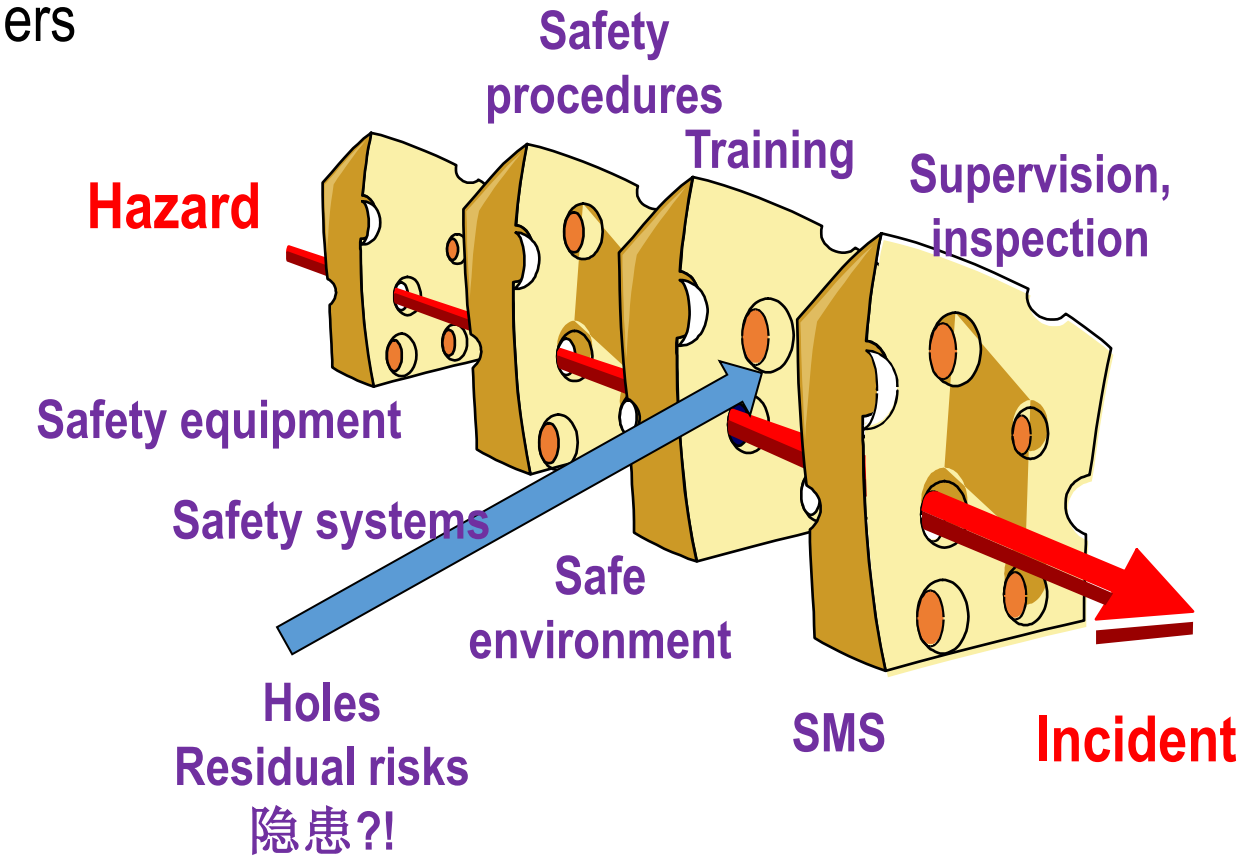
When each incident is investigated in detail; lessons learned lead to effective risk control measures implemented for **relevant systems** to reduce risk of reoccurrence…

What does a good safety culture look like?

- Low accident rate?
- More safeguards?

James Reason's Swiss Cheese Model

- Accidents can be prevented by multiple layers of defense
- But there can still be holes in the safety barriers
- Some holes are due to active failures
- Other holes are due to latent conditions
- The management of residual risks (holes) can reflect the culture of different organisations with similar Swiss cheeses



Residual risk management and increasing risk awareness can reduce holes in the safeguards

What does a good safety culture look like?

- Low accident rate?
- More safeguards?
- Good management?

Role of management

- Many management styles exist
- Management's primary responsibility is to maintain profit and look after the survival of the company
- The functions of management are planning, decision making, organizing, leading, and controlling the human resources, financial, physical, and information resources of an organization to reach the business goals efficiently and effectively
- By controlling their organizations, management keep informed of what is happening; what is working and what isn't; and what needs to be continued, improved, or changed
- They shape the work environment, set strategy, allocate resources, develop managers, build the organization, and oversee operations

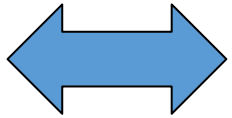
Management = Leadership?

Management is not the same as leadership

- The terms ‘leadership’ and ‘management’ are often used interchangeably with safety leadership and management assumed to be the same individuals
- Management is an organizational skill over processes, functions and programs
- Management can promote good safety culture through their commitment to safety, continuous learning, and care and concern for eliminating or reducing safety risks
- Safety leadership can shape an organization's culture effectively

Management

- Develops a plan and allocates resources
- Sets objectives, organises schedule
- Monitors situations
- Focuses on order and efficiency
- Ensures standards are met
- **A post**



Leadership

- Creates a vision for the future, and encourages others to commit to the vision
- Motivates and inspires others to overcome barriers
- Encourages innovation
- Helps the organisation to develop by adapting to changing circumstances
- **A role**

What are the signs of a poor safety culture?

- Low accident rate?
- More safeguards?
- Good management?

- Under-reporting, missing out on the opportunity to fix things
- Ineffective use of resources, thinking more training, procedures and systems will lead to safer working teams and conditions
- The lack of safety leadership, effective communication and resources reduce confidence to achieve greater performance and culture

The lack of accident does not necessarily indicate the presence of safety

What does a good safety culture look like?

- Management and workers know their roles and responsibilities
- Senior management shows “real” commitment to safety and set examples
- Management focus on safety, health and wellbeing, invest in people
- Mutual trust and an appropriate level of empowerment
- Continuous organizational learning aiming for “beyond compliance”
- Workers care and concern for safety and health hazards
- Everyone actively seeking effective measures to control safety risks at all levels

Organizations with a positive safety culture are characterized by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures

Total safety culture

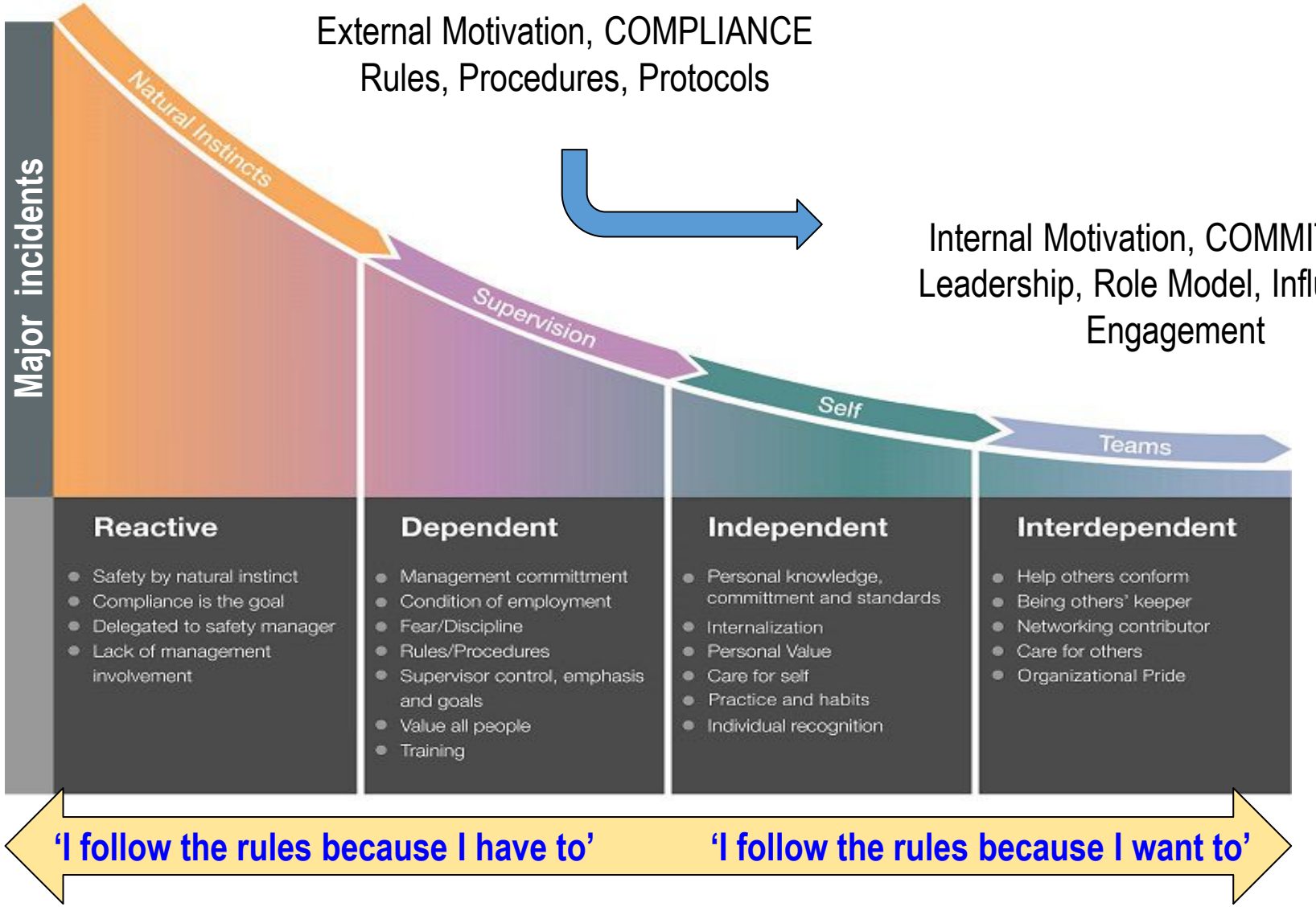
- Good safety culture come from good organisation culture
- Rules, guards, and procedures only HELP keep us safe – it is up to each of the workers to develop a personal commitment to safe behaviour
- Safety should be incorporated into how we do everything: Production, Quality, Efficiency
- Everyone is a safety leader in workplace, encourage others to live safety as a core value that will not be compromised
- Continuing to do what have always done has gotten to the point today, and know the importance of “moving safety to the next level”

To move safety to the next level, we must do something different
but how do we know where to go?

The Bradley Curve – stages of corporate / safety culture

External Motivation, COMPLIANCE
Rules, Procedures, Protocols

Internal Motivation, COMMITMENT
Leadership, Role Model, Influencing, Engagement



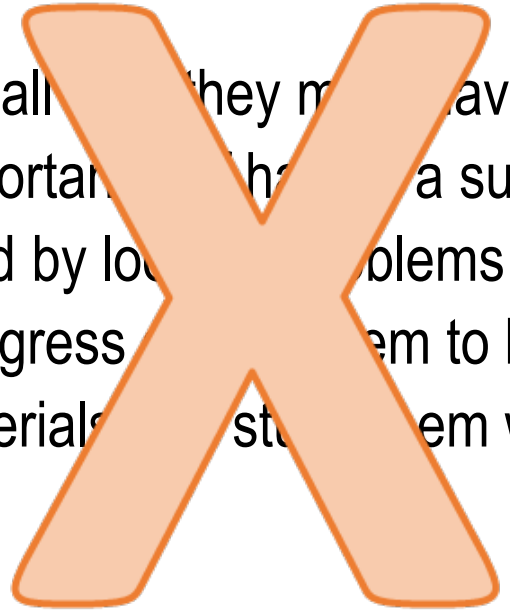
- Forced culture
- Protective culture
- Involved culture
- Integral culture

Safety culture summary in 3 minutes

Promulgate a positive safety culture

How do you promote a positive safety culture?

- Board chairman and CEO tell all they must have a positive safety culture
- Train up all managers the important ha a successful program launch
- Train up all supervisors to lead by lo blems
- Set ambitious KPI to track progress em to bonus
- Ask workers to download materials st em well for quiz



These are the steps to build a poor cutlure, violating everything we have talked about so far

How do you promote a positive safety culture?

Promoting a sustainable positive safety culture is a determined, intentional, sustainable, continual process and must start from the top with buy-in from all levels. The process includes:

- Top management to set values, explain clearly and reinforce them continually
- Through extensive consultation and feedback, management to establish near, mid- and long-term goals with measurable objectives that integrate into multiyear action plans
- All staff to feel ownership of the whole culture transformation process
- All actions are reviewed and adjusted regularly to seek continuous improvement
- Board and senior management monitor progress
- Be flexible in implementing actions and resilient in responding to setbacks
- Reinforce positive behaviors and invest in organizational leaning and talent management

A successful safety culture transformation program always start with the understanding and defining of safety beliefs, values and attitudes

Will you cross the street at a red light?

- You may get run over by a car
- What if the chance of being hit by a car is very low?
- If caught, what is the fine?

In Hong Kong, pedestrians who cross the street without regard to traffic signals are liable to a fine of HK$2,000

- What if a lot of people are crossing with you?
- In the middle of the night without a car and no one around?

Will you cross the street at a red light? ?

- Why don't they just cross the street?

Values → Attitude → Behaviour →culture

- Your attitude affects your behavior
- Your behavior reflects your work culture
- Whether crossing the street at a red light reflects your values
- When no one is watching you, will you follow the working procedures?
- When you work by yourself in the middle of the night?
- Will your subordinates follow the procedure to do the correct work steps? Working alone? Under pressure? 1000 subordinates?

What about things your staff do when no one is watching over them?

In the middle of the night?

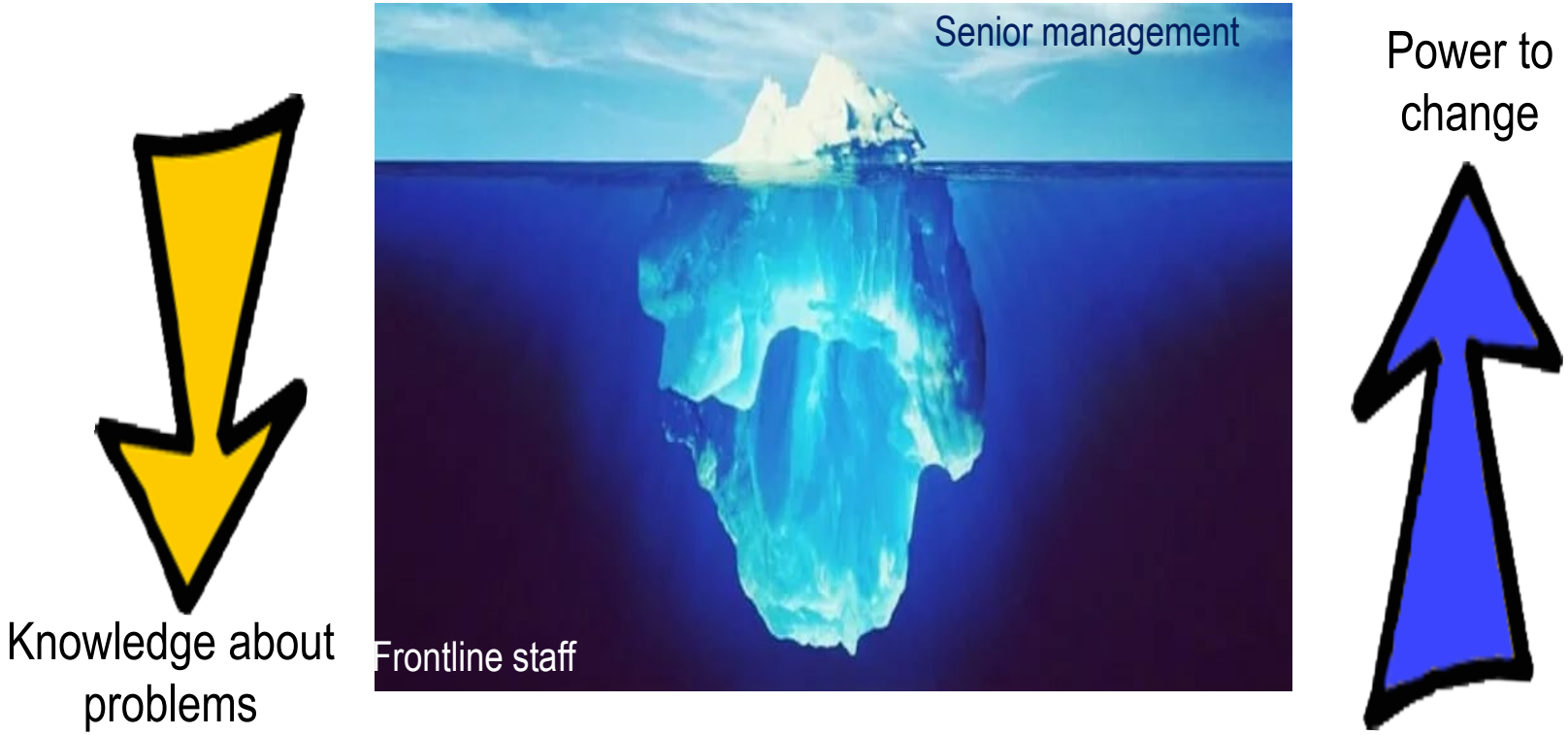
Safety culture is what everyone does when no one is looking

Belief → Values -> Attitudes → Behaviour → Culture

The way in which safety is managed in a workplace. It is the combination of **beliefs, perceptions, values, and attitudes** of employees share in relation to risks within an organization toward the safety of people and the overall safety of the work environment

Who is best to lead the efforts in establishing the values?

- Company safety culture has to start at the top, ultimately, employees follow behavior modeled by senior leadership



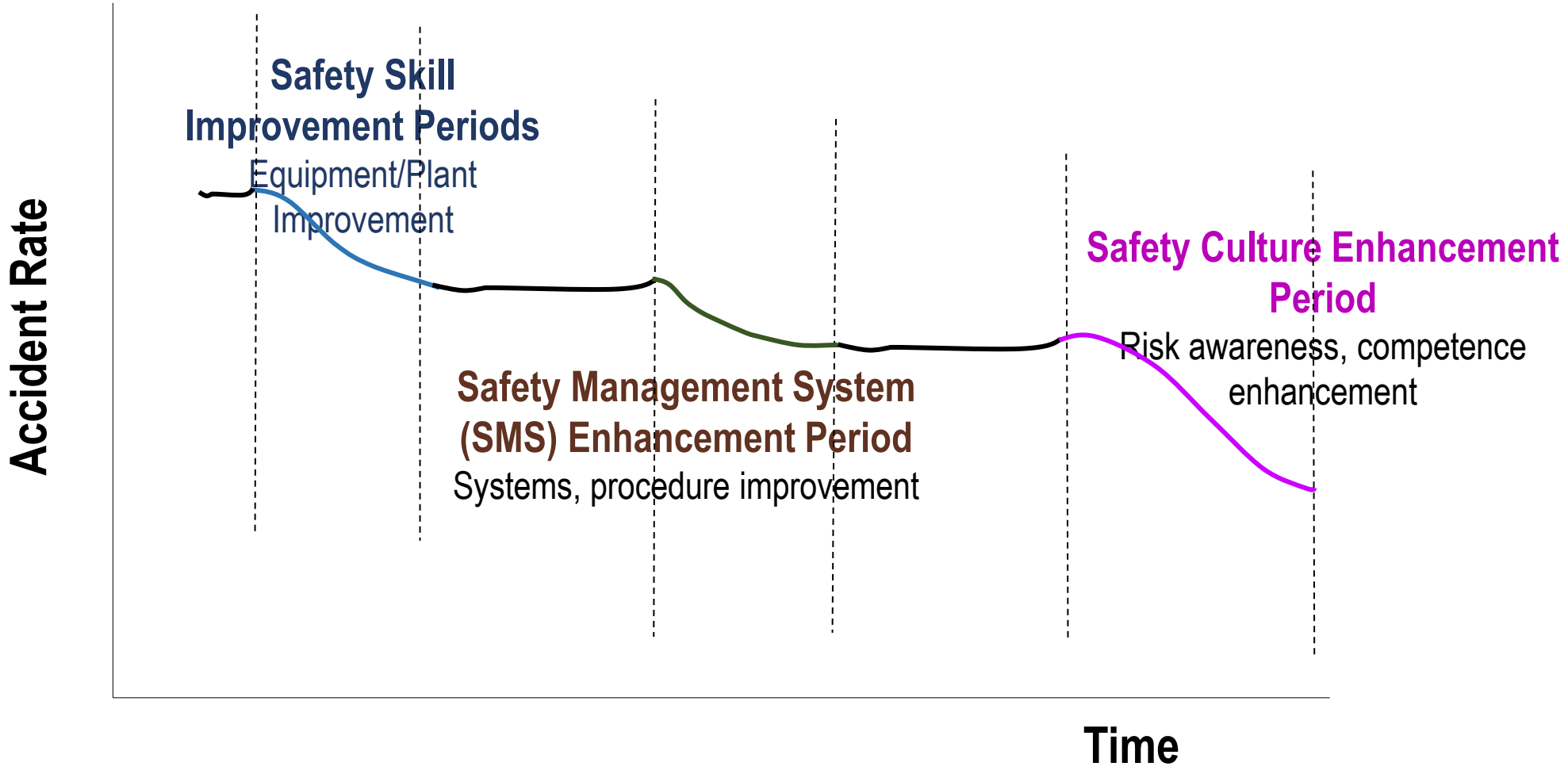
Leader shapes a sustainable positive safety culture but everyone has a role to play

Influencers on safety culture

- Management commitment and style
- Employee involvement
- Training and competence
- Communication
- Compliance and beyond compliance
- Organisational learning

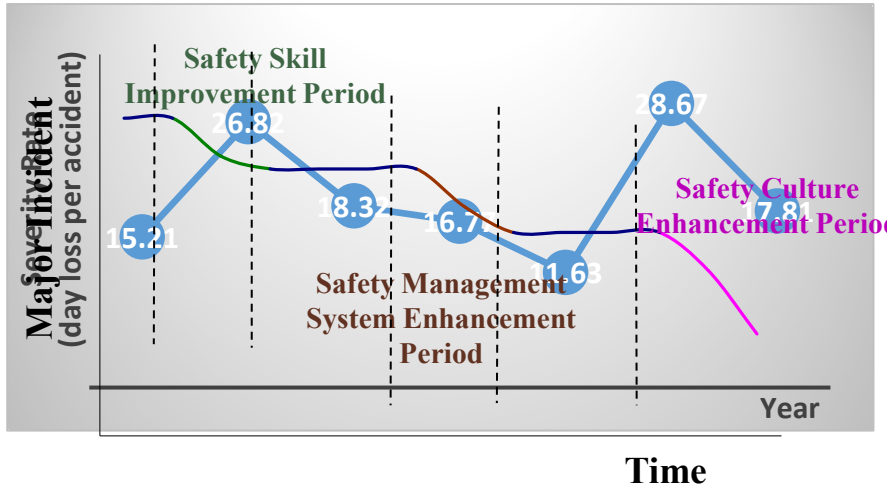
Barriers in promulgating safety culture

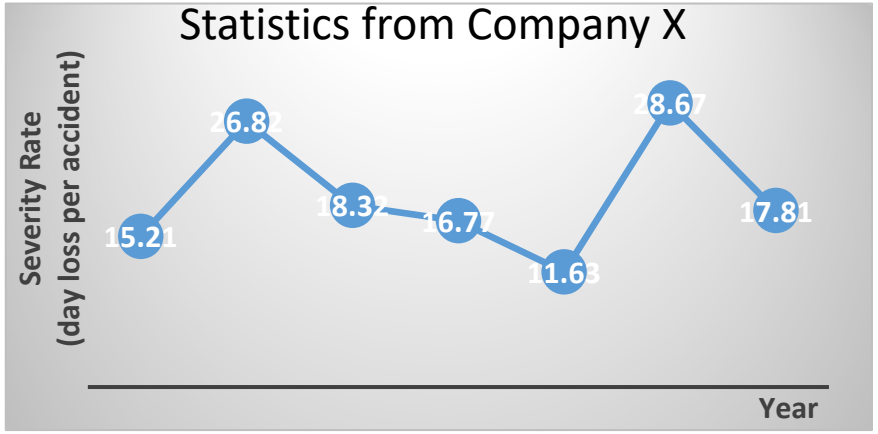
Why do companies start a safety culture change campaign?



Safety culture enhancement can help increase safety presence and further reduce accident rate

Can it be done easily?

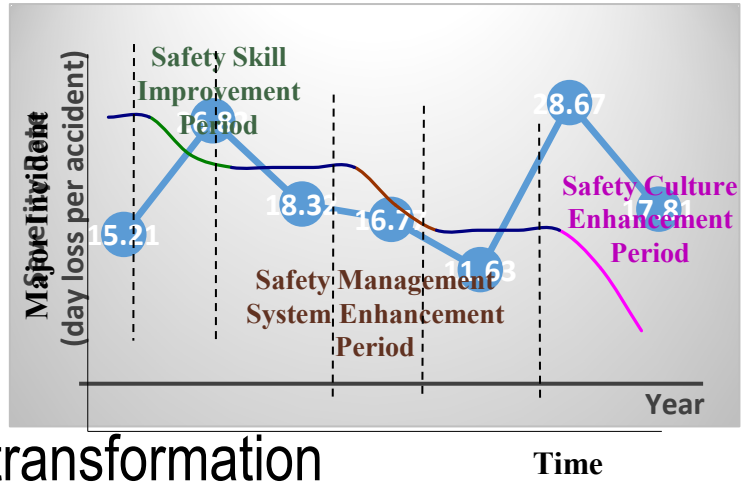




Studies have suggested that the failure rate of organizational changes can be about 70% and some even pointing at 90+%. Most of these failures are attributed to a range of factors including employee resistance, lack of management support

What can go wrong in a safety culture transformation program

- What can cause culture change to fail?
  - Change for the sake of changing
  - Organisations not ready to change but push ahead
  - Change without a clear target-state in mind
- An ill-prepared change further adds its own barriers to a culture transformation

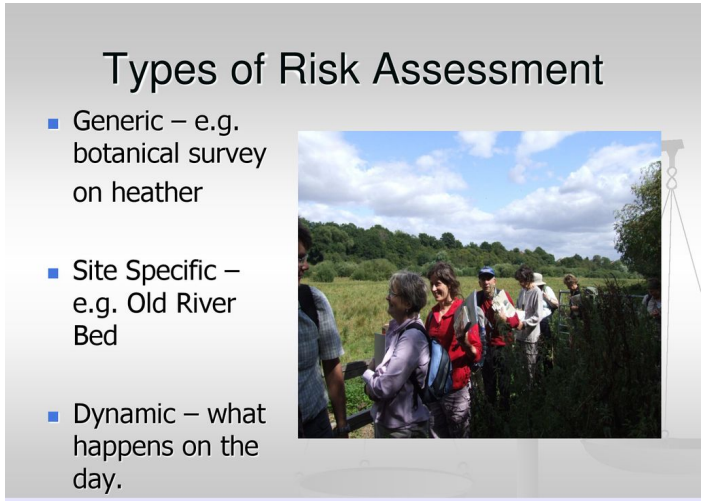


Resistance to change is not necessarily a bad thing – we need to understand what the issues are and adjust accordingly

Be flexible in implementing actions and resilient in responding to setbacks

What can go wrong – barriers to change

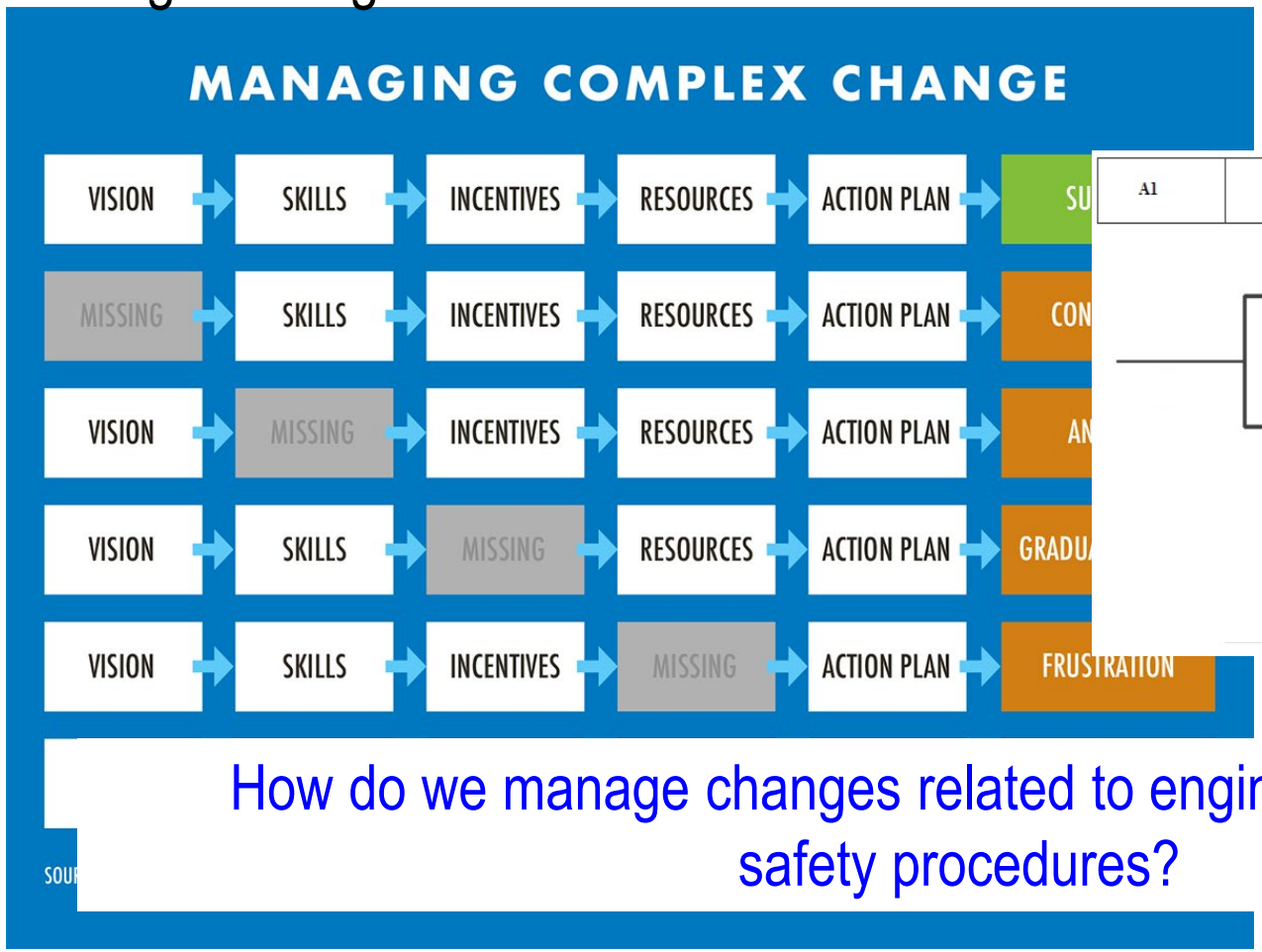
- Like any safety analysis, you must conduct your own site-specific, application-specific risk assessment
- Differences between a list of generic barriers vs site-specific barriers to success
- No data?
- Maybe you are not ready?

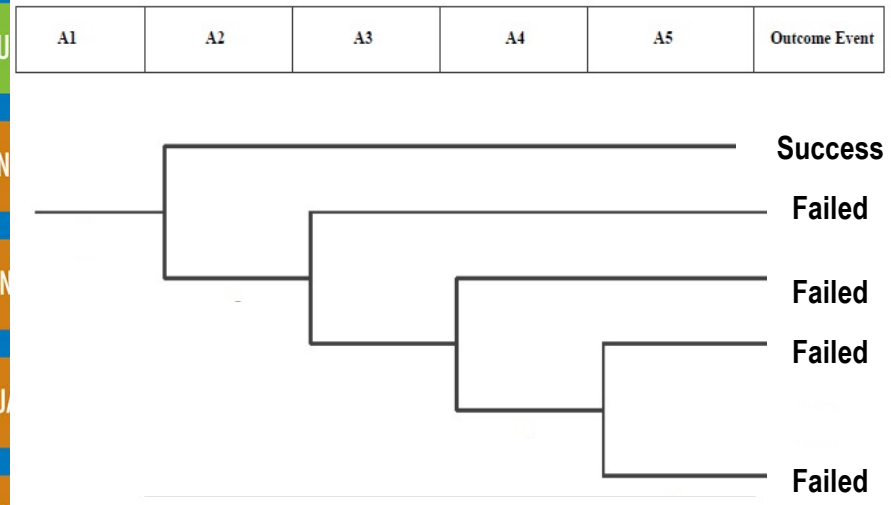


Find out your own safety culture transformation barriers (what can go wrong), and risk-manage them with control measures and appropriate resources

How to better prepare?

- Many interesting models out there for illustration of issues
- Change management models

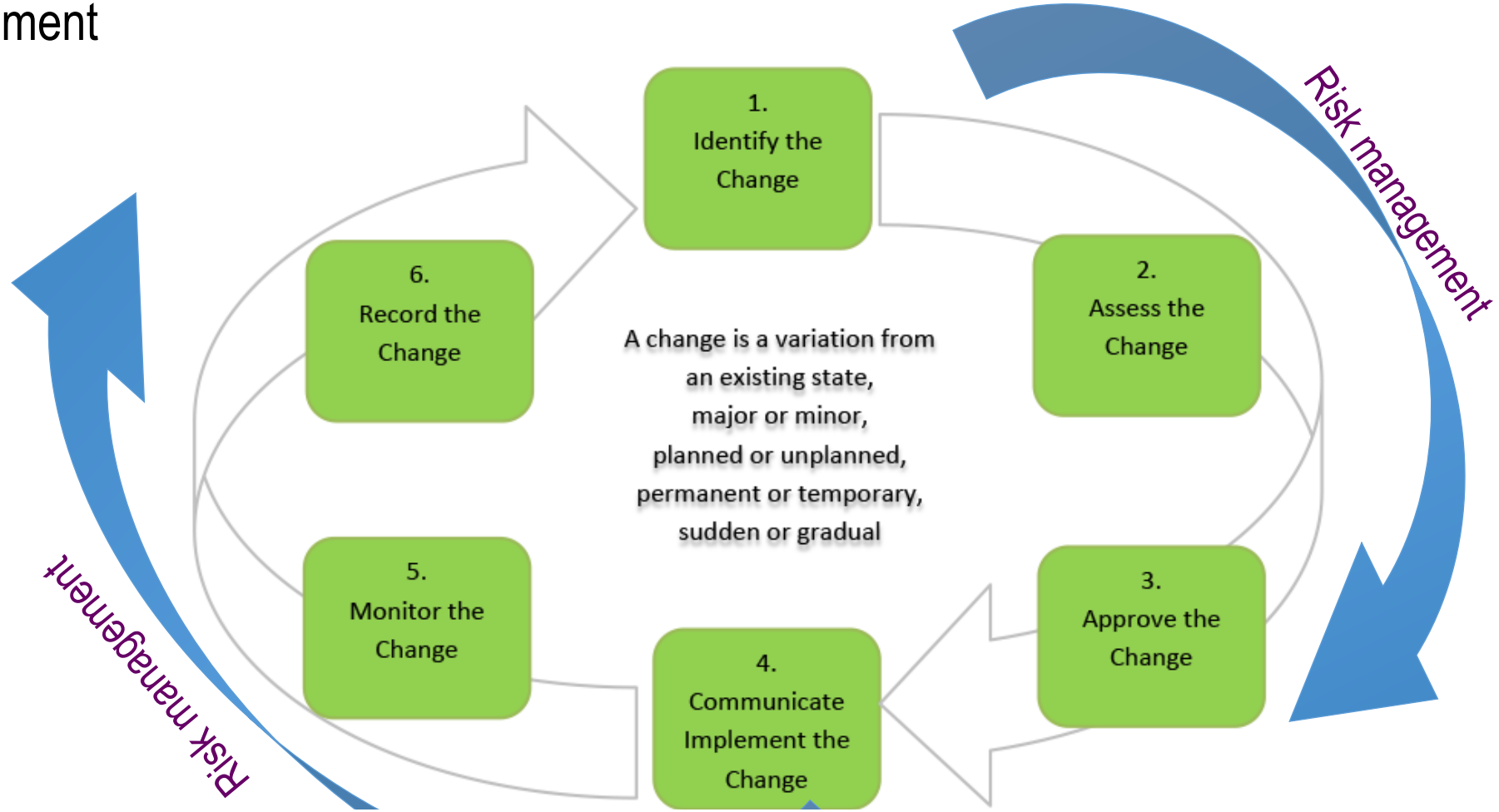




How do we manage changes related to engineering systems or safety procedures?

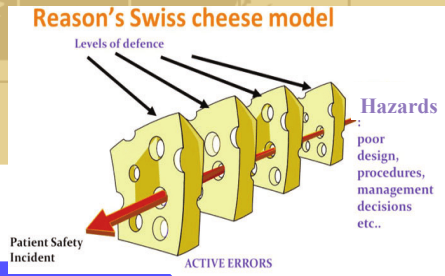
Change management for engineering systems

- Change risks (similar to project risks) can be managed by formal risk assessment and management

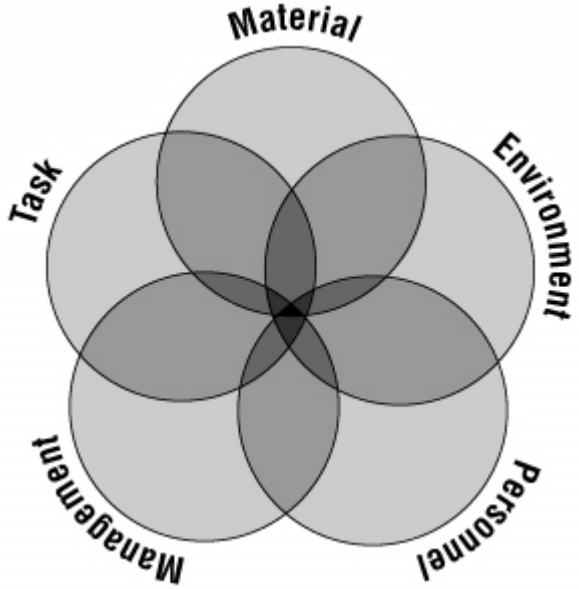


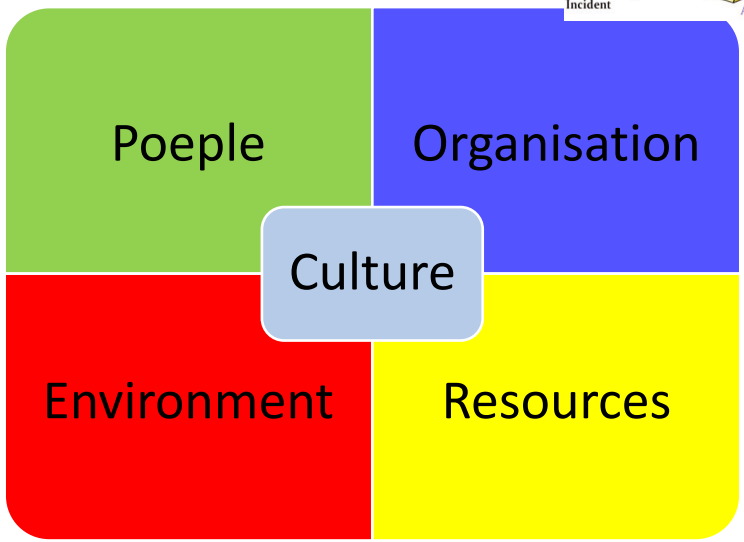
Can we use similar approach in managing culture transformation?

Safety accident causation model



Causes of incident can be grouped into





We can use similar guidewords to find out what can go wrong, why and how, with a focus on safety culture

"PORE" to find out what can go wrong (why, how, who, where, when) in a safety culture transformation programme

"What can go wrong" are the hazard scenarios, and in our application, they are the barriers to a successful safety culture transformation

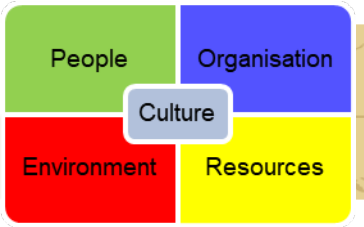
Generic barriers to culture transformation
People – stakeholders (examples)

People include Front line staff, part time staff, managers, senior management, subcontractor, customers, visitors, public, etc.

- Lack of employee involvement and buy-in
- Not involving the front-line staff
- Resistance to step outside comfort zone
- Negative employee attitudes
- Lack of directors' commitment
- Lack of proper training on new state
- Poor feedback
- Thinking cultural change takes time
- Lack of the right leadership and focus
- …

You can put all the structures and plans in place, but it all comes down to the people wanting to do the right thing driven by the right culture

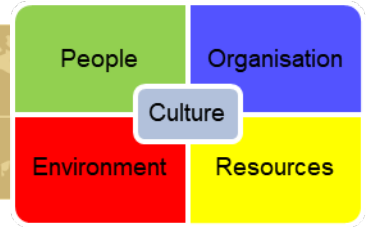
Organization – understand the complexity



- Lack or key objectives and strategic direction
- Lack of key performance indices
- Lack of change agents
- Lack of effective change management
- Lack of effective communication strategy
- Poor planning
- Lack of organizational learning
- Silo effect
- Not taking feedback seriously and act accordingly
- Lack of Stakeholder management
- …

This often overlaps with People. We can classify structural, system and institutional issues under this category; something under management control

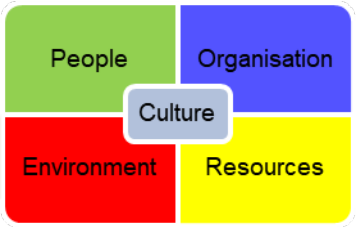
Resources – change requires supports



- Inadequate resources
- Lack of support functions, enterprise risk management
- Lack of resources to provide effective communication
- Lack of promotion budget
- Lack of sustainable efforts
- Lack of manpower to monitor effectiveness
- …

Ensure availability of resources, define boundaries & respective authorities

Environment – workplace and external factors



- Socio-political factor
- Poor working conditions
- Poor workplace hygiene
- Too many information sources giving conflicting advice
- Misunderstand the obligations to regulators / shareholders
- Lack of understanding of local customs, religions, traditions
- ...

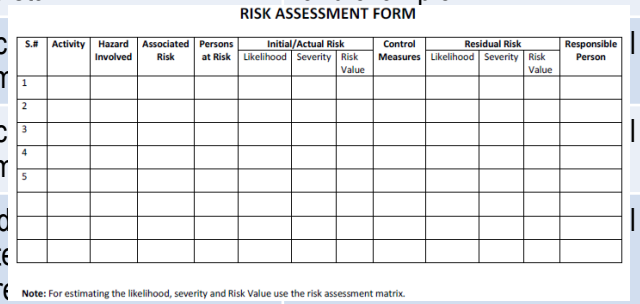
External factors are often ignored in a culture transformation program

Using a risk registrar to document the "what can go wrong" – Culture transformation risk assessment

- In a risk assessment, you want to find out what can go wrong – the hazards (sources of potential harm) and the potential causes of accident
- The same should work for culture change
- We can make use of a HAZOP or HAZID worksheet to manage these barriers

Similar to safety hazard assessment, we can develop own worksheet structure, risk matrix, guidewords, etc., for a culture transformation barrier analysis

Category	Guideword	Hazards/ Barriers	Risk Control /Mitigation Strategy	Residual Risk level (L/M/H)
People	Employee	Lack of employee involvement and buy-in	Add details about the control strategy, and champion	Medium
	Employee	Not involving the front-line staff	Add details about he control strategy, and champion	High
	Management	Lac com	l strategy,	Medium
Organisation	Communication	Lac com	l strategy,	High
Resource	Add guideword	Add pote here	l strategy,	Low
Environment	Add guideword	Add description of the potential harm -barriers here	Add details about the control strategy, and champion	High


RISK ASSESSMENT FORM

S.#	Activity	Hazard Involved	Associated Risk	Persons at Risk	Initial/Actual Risk			Control Measures	Residual Risk			Responsible Person
					Likelihood	Severity	Risk Value		Likelihood	Severity	Risk Value	
1												
2												
3												
4												
5												

Note: For estimating the likelihood, severity and Risk Value use the risk assessment matrix.

Manage the transformation

- Systematically identify and risk-manage barriers at your organisation
- Understand the resistance, plan for it, expect it, and manage it
- A successful safety culture transformation program **MUST** align with business strategy, and incorporate into everything we do

Safety culture transformation can be risk-managed through a structured process

Manage the transformation

- You can put all the structures and plans in place, but it all comes down to the people wanting to do the right thing driven by the right culture
- Safety is a way of life – a process, not a program; it is not something extra to do
- Let's not just look at what can go wrong but also what have gone right
- Safety must be in the heart and mind of everyone, everywhere, everyday

A successful safety culture transformation program is very much like a business plan – must be agile and response promptly to internal and external factors

What went wrong?

BP Case

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Takeaways

Safety culture transformation can be risk-managed through a structured process to identify and control site-specific transformation barriers

Understand “why” the change, what can go wrong, and what have gone right

PORE

Communicate

Communicate

Communicate

Safety culture transformation must be integrated with business plan and align with organizational cutlure

End

Career Paths in Safety

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