



Rail Accident Investigation Branch

Investigating organisational factors – a methodology

Rail accident investigation seminar 2019

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Organisational factors -What are they?



Organisational culture

“a pattern of shared basic assumptions that was learned by a group... that has worked well enough to be considered valid and, therefore, to be taught to members as the correct way to perceive, think and feel in relation to those problems.” (Edgar Schein)

In an organisation culture is made up of 3 levels:

- Artifacts (visible organisational structures and processes)
- Beliefs & values (strategies, goals & philosophies)
- Underlying assumptions (unconscious, taken for granted beliefs, perceptions, thoughts & feelings)

Safety culture

- Safety culture is a sub-set of the overall organisational culture
- There is no universally accepted definition of safety culture – it is a concept
- It has been described as “the way we typically do things around here” and “doing the right thing even when no-one is watching”
- Most definitions of safety culture focus on group values, attitudes, beliefs, perceptions and behaviours in relation to health and safety management in an organisation
- Safety culture should not be confused with safety climate
- Safety culture is dynamic and constantly changing

Safety management system

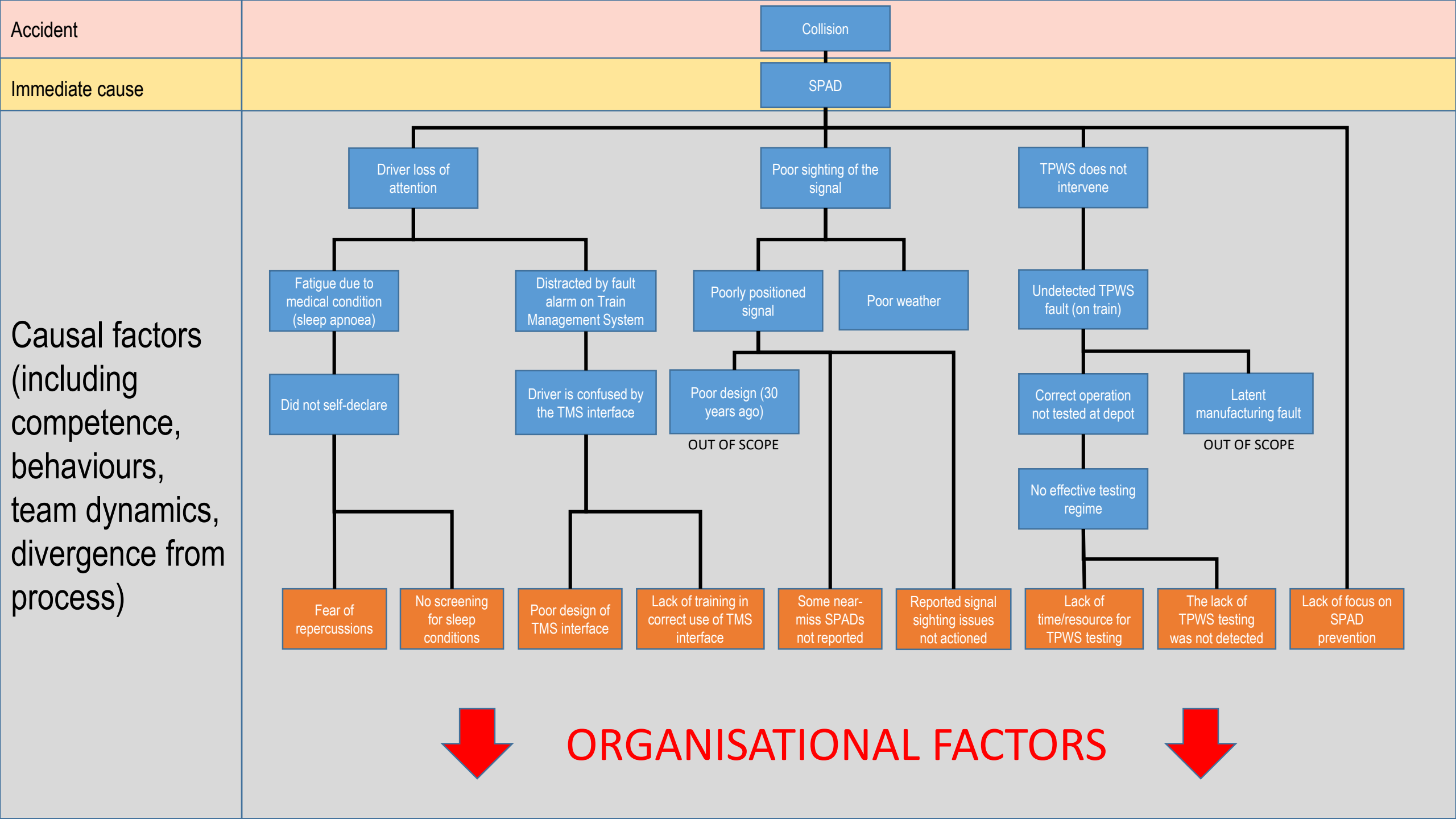
- A Safety Management System (SMS) is a formal arrangement for managing a safe working environment (processes, systems, practices, procedures)
- SMS and safety culture are not interchangeable
- SMS may 'signpost' safety culture but it is possible to have a good safety culture without having a formal SMS (although unlikely to have an effective SMS without a good safety culture – it is an enabler)
- Best to think of SMS and Safety Culture as inter-dependent: SMS embodies the competence to achieve safety, whereas safety culture represents the commitment to achieving safety

Why investigate organisational factors?

- If we look at the whole system not just the individual we will need to consider organisational factors
- In an investigation it is important to go beyond “what” happened and explain “why” an occurrence happens (don’t stop at ‘human error’)
- There is a need to look further than the ‘sharp end’ - to look at the underlying factors (which are often organisational)
- By looking at organisational factors we can look at system interaction and influence, at relationships and interdependencies that are not always obvious
- Overall to ensure good quality learning from an investigation we need to consider organisational factors



A three step methodology

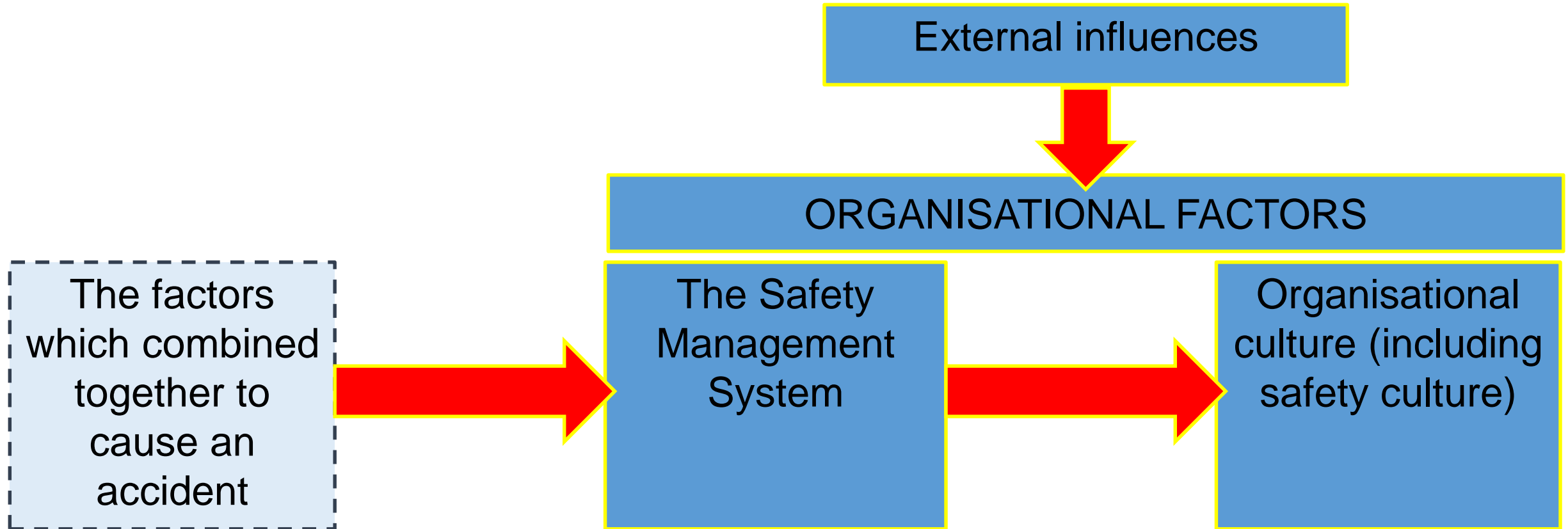


Three key steps

This presentation will present a simple methodology for investigating organisational factors, based on three key steps:

1. Examining how the Safety Management System was supposed to manage the risk, and why it failed to do so
2. Considering how the underlying organisational culture created the conditions that allowed the accident to happen
3. Reviewing how external organisations may have influenced either of the above

A simple model for the investigation of safety management systems and safety culture (1)

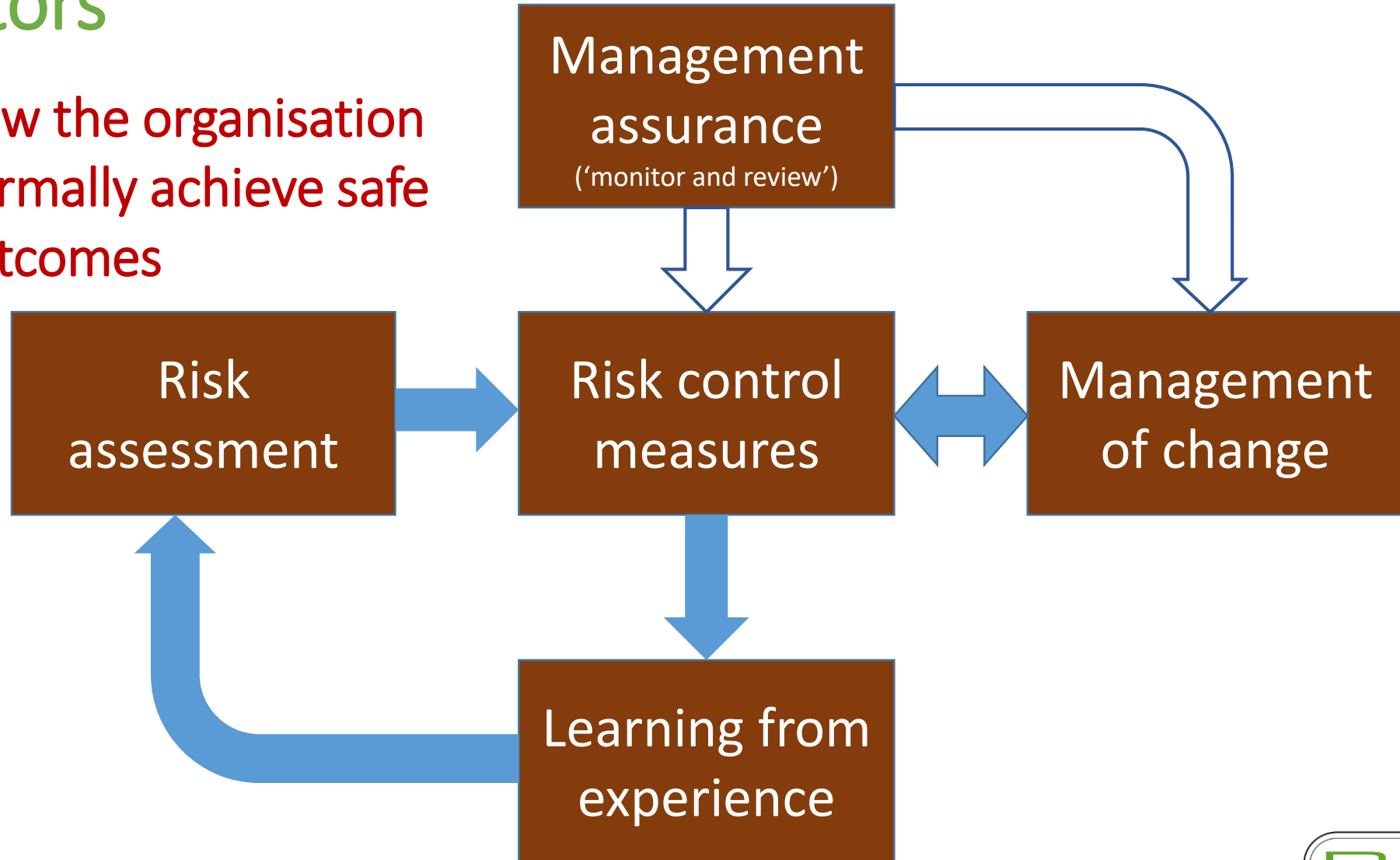




Step 1, examine the potential influence of the safety management system

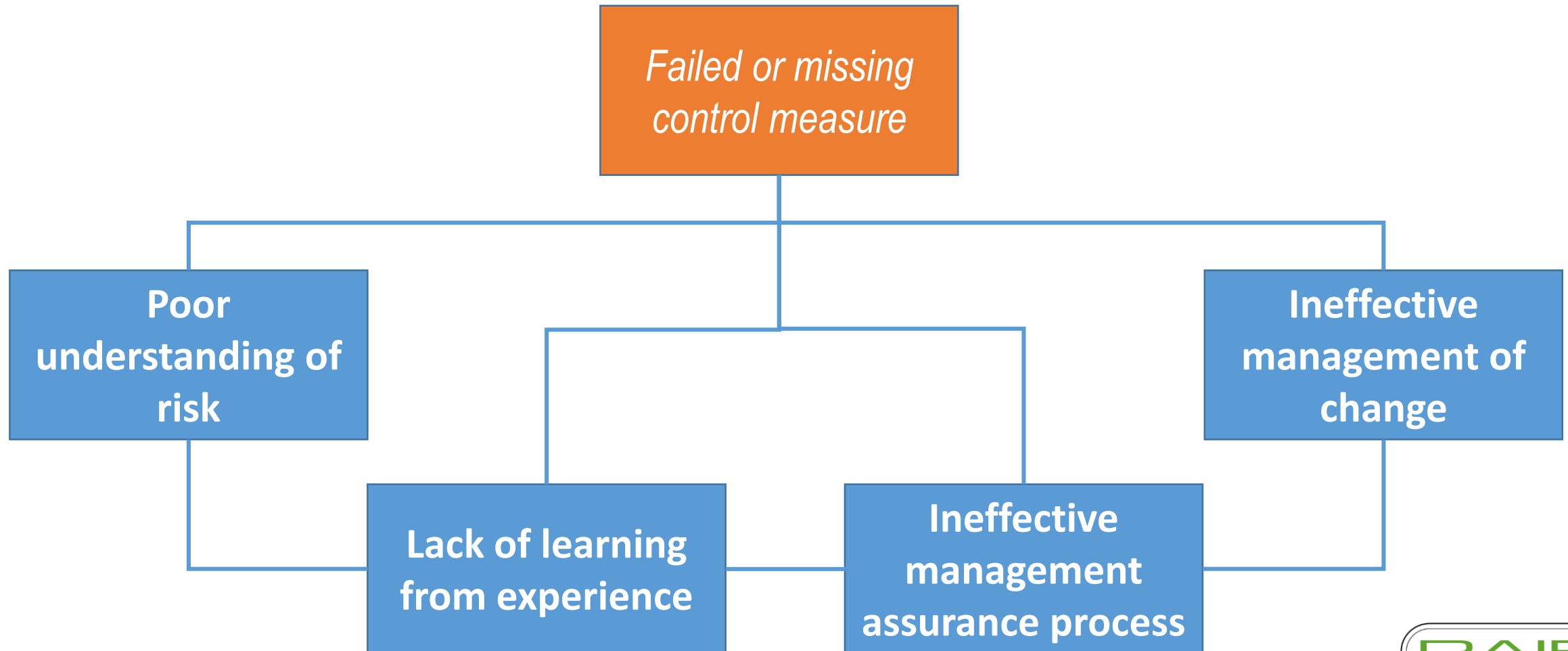
A (really) simple conceptual model of an SMS for investigators

How the organisation normally achieve safe outcomes



Causal analysis

When investigating an accident, the elements of SMS can be viewed as a simple causal analysis:





Step 2, examine the potential influence of organisational culture

Measures of organisational culture

The following aspects are of particular importance to us as investigators:

- The extent of corporate knowledge
Did the organisation know enough, or have the expertise it needed to manage its risks?
- Willingness or ability to learn
Was the organisation open to new learning, and able to capture it?
- Willingness or ability to change
Was the organisation willing and able to flex to accommodate new learning?

Measures of organisational culture (2)

- Reporting culture

To what extent were safety issues being reported and actioned?

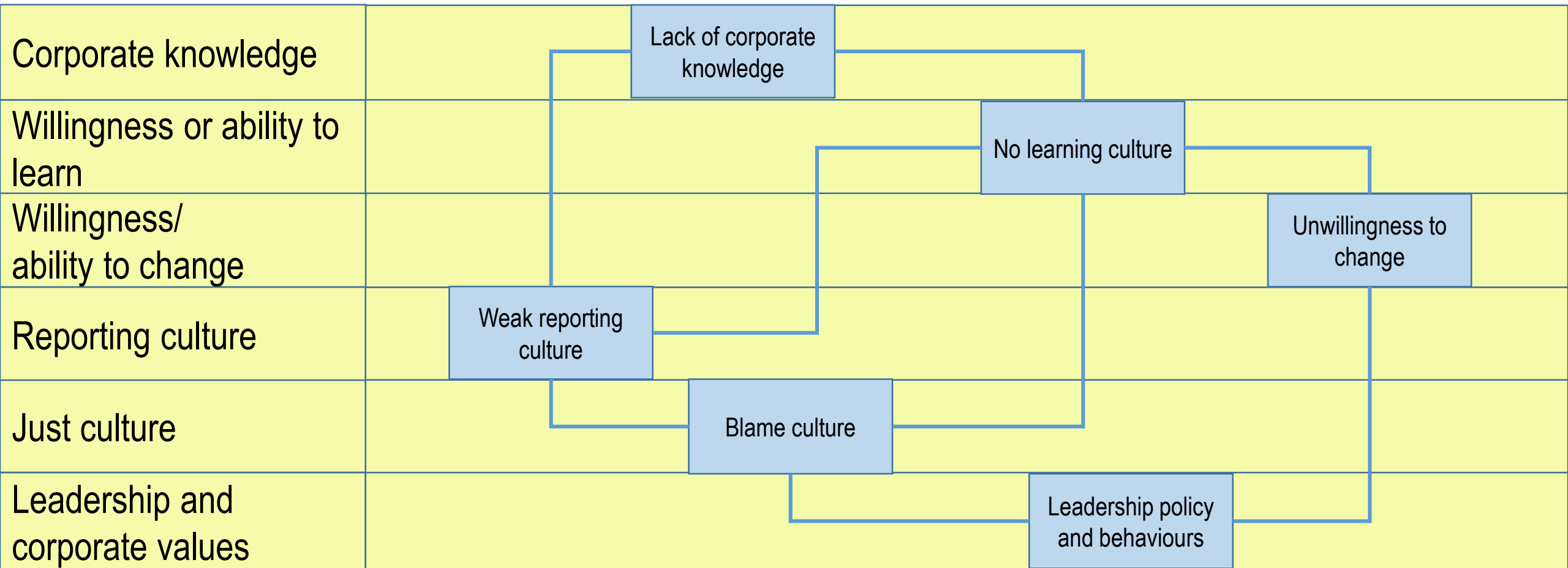
- Just culture

Did employees feel empowered to report safety issues, particularly those relating to their own mistakes or errors, without fear of unjust repercussions?

- Leadership and corporate values

Were there aspects of leadership and/or safety culture that contributed to the conditions that allowed the accident to occur?

Plotting cause against components of organisational culture (showing common links)






Step 3, looking for factors beyond the organisation

Looking for factors beyond the organisation

Causal factors from outside the organisation can include:

- Physical and electrical interfaces between organisations (eg road vehicle incursion and national grid)
- Owning companies and other railway undertakings
- Standard setting organisations
- Industry bodies (eg RSSB)
- The supply chain and leasing bodies
- The actions/inactions or policies of the regulator
- Government policy and legislation



Some top tips for investigating organisational factors

Top tips for investigating organisational factors (1)

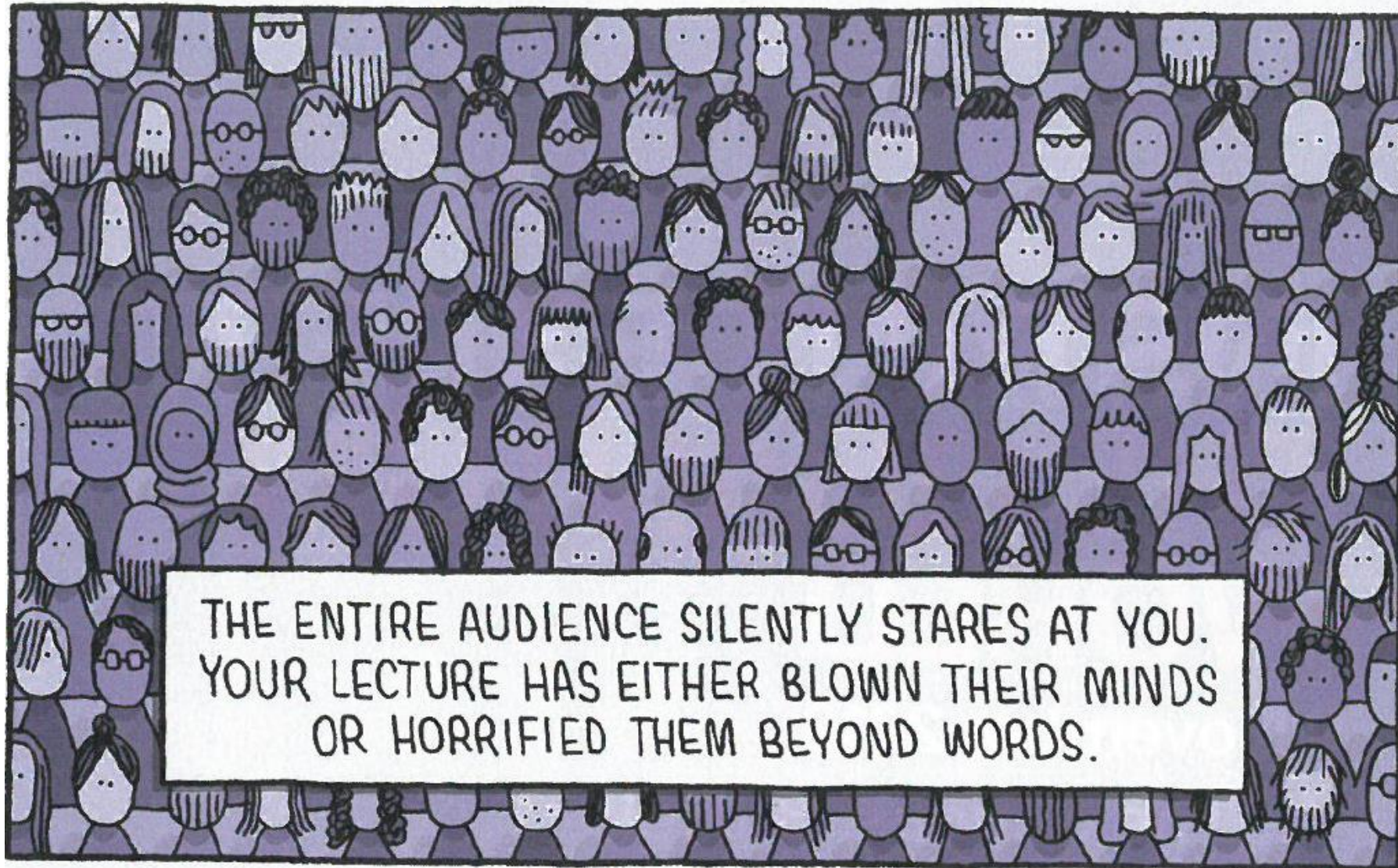
1. It is not for accident investigators to verify the quality of entire safety management systems
2. It is not the job of investigators to merely check compliance (that is a matter for the auditor)
3. When performing causal analysis it is important for investigators to always look for the reasons why those involved deviated from the defined process, or why the defined process was inappropriate
4. An important theme to be explored by investigators is the extent to which hazards and risks were properly understood by organisations in the period before an accident.

Top tips for investigating organisational factors (2)

5. All findings should be based on the best evidence available and areas of uncertainty need to be clearly identified to the reader of the report
6. A deficiency in one area of an organisation's safety management system does not mean that the entire SMS is defective
7. Safety culture is particularly difficult to evidence. However, following the various strands of causal analysis in a methodical manner can often reveal indicators of a weak safety culture
8. Recommendations relating to organisational factors can have far reaching effects (including unintended consequences) and should therefore always be the subject of extensive consultation

Conclusions

- Good investigation of organisational factors is an extension of good causal analysis. The three step process suggested in this presentation should ensure that you properly consider their impact
- The need for good evidence is undiminished when investigating organisational factors
- Beware the impact of emotion and post-event hindsight when investigating organisational culture
- **Remember we are not auditors** – we should always remain focused on causality. A poor SMS is not a sufficient explanation of why an accident occurred



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YOUR LECTURE HAS EITHER BLOWN THEIR MINDS
OR HORRIFIED THEM BEYOND WORDS.