

FAiR[®] 2

SYSTEM

A behaviour-based system for supporting
and sustaining a Just Culture

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FAiR[®] 2 System - Enhancements and Revisions

Since its conception and launch, our original FAiR[®] System Toolkit and User Guide has been widely praised, referenced, downloaded and shared by aviation organisations (and others) worldwide seeking help with implementing a fair approach to investigating, resolving and preventing recurrence of events that had occurred within their organisations.

In 2014, we invited representatives from across the aviation industry with experience of using our FAiR[®] System to discuss how to improve it. This booklet is the result of those workshops and we would like to thank all who participated.

In summary, the major changes we have made to the **FAiR[®] 2 System** are:

- ▶ Re-working the flowcharts to reduce the emphasis on culpability and to increase emphasis on using interventions by those using the FAiR[®] System. The FAiR[®] 2 System is designed to minimise the likelihood of recurrence of the event being investigated, which includes identifying effective interventions and treating people fairly in terms of their accountability.
 - ▶ Including how to intervene successfully. We have now included a few 'back to basics' theories on how to intervene along with a basic behaviour/intervention model to assist with this.
 - ▶ Making it clear that there are 3 Steps to using the FAiR[®] 2 System, so the tests and interventions flowchart are now much clearer in this regard.
- ▶ Ensuring that people actually use the User Guide to help them in their investigations. We have introduced the '12 Golden Rules' to clarify what needs to be done, by when and by whom.
 - ▶ Widening its applicability to include the air operations field.
 - ▶ Improving the context of FAiR[®] - explaining its importance to achieving a performing safety culture
 - ▶ Making clear that users of the FAiR[®] 2 System (the Event Review Group (ERG)) need to be competent and trained to do so and to reiterate what the ERG process is tasked with achieving.

Just Culture – Unlocking the Key to Safety Performance

Safety culture is the bedrock of safety performance and has at its heart a Just Culture reporting environment.

A safety culture encompasses an organisation's commonly held perceptions and beliefs regarding safety and has the potential to significantly influence people's behaviour. Founded upon a Just Culture, your safety culture allows individuals to freely and openly share safety-related information in an atmosphere of trust, born from a sense of justice.

What is Just Culture?

"An atmosphere of trust in which people are encouraged (even rewarded) for providing essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour."

Professor James Reason, 1997

Why have a Just Culture?

A Just Culture encourages openness and proactive reporting of hazards. It enables organisations to better identify its risks and implement effective mitigations. With an enhanced risk picture and a safety-conscious workforce, it improves safety-risk management, increases operational efficiency and protects vital assets.

How the FAiR[®] 2 System supports and sustains a Just Culture

The Baines Simmons FAiR[®] 2 System (Flowchart Analysis of Investigation Results) is an innovative management tool designed to help organisations that are investigating events to determine the nature and causes of errors, thereby ensuring that appropriate and effective interventions are taken.

Designed as a behavioural classification-based framework, the FAiR[®] 2 System ultimately helps organisations support and sustain a Just Culture.

How a *Proactive Safety Culture* Impacts Safety Performance

A proactive safety culture fosters an environment where people feel responsible for safety. This can be seen when they actively seek improvements, vigilantly remain aware of hazards and utilise systems and tools for continuous monitoring, analysis, and investigation.

You know you have a proactive safety culture when staff feel empowered to positively challenge and change the 'way business is done around here', encouraging actions to be taken that minimise risk, remove inefficiency and reduce the likelihood of further incidents occurring.

In terms of achieving safety performance, an organisation reaps the benefits of having a proactive safety culture when:

- ▶ A powerful strategic focus on safety is visible and palpable throughout the business
- ▶ Safety goals are actively pursued in support of an over-arching safety vision
- ▶ Safety is integrated into organisational structures and processes
- ▶ People take responsibility for managing and improving safety

Responsibility for creating a proactive safety culture rests with senior management and relies on having a high degree of trust and respect between them and the workforce.

The Baines Simmons SMARTT MAP™ assists organisations to understand, build and power-up their safety management system for organisational performance. It provides clarity, focus and direction for leaders aspiring to achieve effective safety management.

Safety Performance is people/system-centric and focussed on the 'human in the system'. It is achieved from four core management systems and five performance enablers working effectively and in harmony.

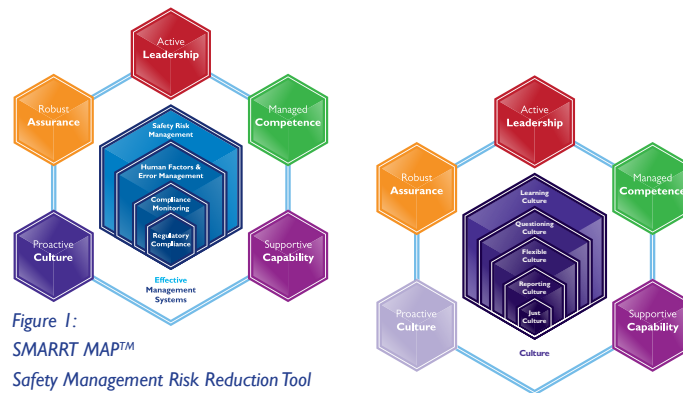


Figure 1:
SMARTT MAP™

Safety Management Risk Reduction Tool

A key enabler to achieving safety performance is Proactive Culture. It is nurtured by a Just Culture that significantly influences people's behaviours, perceptions and beliefs, and progresses to a Reporting, Flexible, Questioning and Learning culture that exists across the organisation.

Using the FAiR[®] 2 System

Derived from existing academic models and leading best practice, and designed with ease of use and repeatability in mind, the FAiR[®] 2 System has been designed to enable organisations to:

- ▶ **Identify effective interventions** that help prevent or reduce events or near misses where humans and systems fail to perform in the manner expected
- ▶ **Ensure personal accountability is balanced** with the desire for learning and improvement
- ▶ **Focus on actions and intentions rather than consequences** by offering a consistent and impartial approach

Practical application of the FAiR[®] 2 System requires a degree of sensitivity and discretion but still ensures an impartial assessment of what are deemed acceptable and unacceptable actions.

It is not intended to replace current disciplinary or administrative procedures but instead, to encourage a transparent and fair analysis of an individual's behaviour.

Experience shows that alignment and harmonisation with an organisation's human resources department is a key component in the successful implementation of the FAiR[®] 2 System.

The FAiR[®] 2 System - A 3-Step Approach

STEP 1: Classify the Behaviours

STEP 2: Apply the Additional Tests

STEP 3: Identify Effective Interventions and Accountability

The application of the FAiR[®] 2 Process Flowchart on page 7 shows how to apply the system at different stages in the process.

The FAiR[®] 2 System is entirely predicated on information gathered during a Human Factors-centric investigation conducted by trained investigators. It should not be used in isolation or without an objective and comprehensive investigation being conducted first.

12 Golden Rules of Using FAiR[®] 2

Pre-Event Review Group (ERG) Meeting

1. Use the FAiR[®] 2 User Guide. It is there to help and guide you and to provide consistency of results.
2. Ensure a Human Factors based investigation has been undertaken by two competent investigators (typically one a subject matter expert and one independent from the area in question) using a structured standardised taxonomy and report format.
3. Select competent Event Review Group (ERG) members (typically an odd number to allow decision-making). Where relevant, this should include a subject matter expert to help select effective interventions. Note: To minimise bias and preserve impartiality the ERG should not include the Manager from the department or area in which the event occurred.

During-Event Review Group (ERG) Meeting

4. Ensure the report is complete and of a good standard. It should clearly identify the root cause and contributing factors and answer all the 'Why did it happen?' questions. If not, clarify any points with the investigators before proceeding.
5. Classify the behaviour based solely on the facts contained within the report and not on opinion or perception.
6. Run the Substitution and Routine Tests using all available information and data (see pages 10-11).
7. Based on the results of steps 5 and 6, approve or amend the original report recommendations ensuring that all proposed interventions are achievable, realistic and sustainable to be effective.
8. Assign ownership to all agreed recommendations and track progress to implementation.
9. Reach a conclusion every time; do not spend an excessive amount of time focussing on semantics and grammar within the report.
10. If appropriate, consider the Proportionality Test (see page 15).

Post-Event Review Group (ERG) Meeting

11. Ensure feedback is given to those involved in the investigation and, if appropriate, consider using the event as a 'lesson learned' example in training and safety communication programs:
 - To increase awareness levels of the contributing factors within the wider organisation
 - To promote the value of using the FAiR[®] 2 System in support of establishing a Just Culture as the cornerstone of Safety Culture
12. Record all ERG proceedings for any future review, analysis and assurance purposes.

Table 1: 12 Golden Rules of Using FAiR

Application of FAiR[®] 2 - Process Flowchart

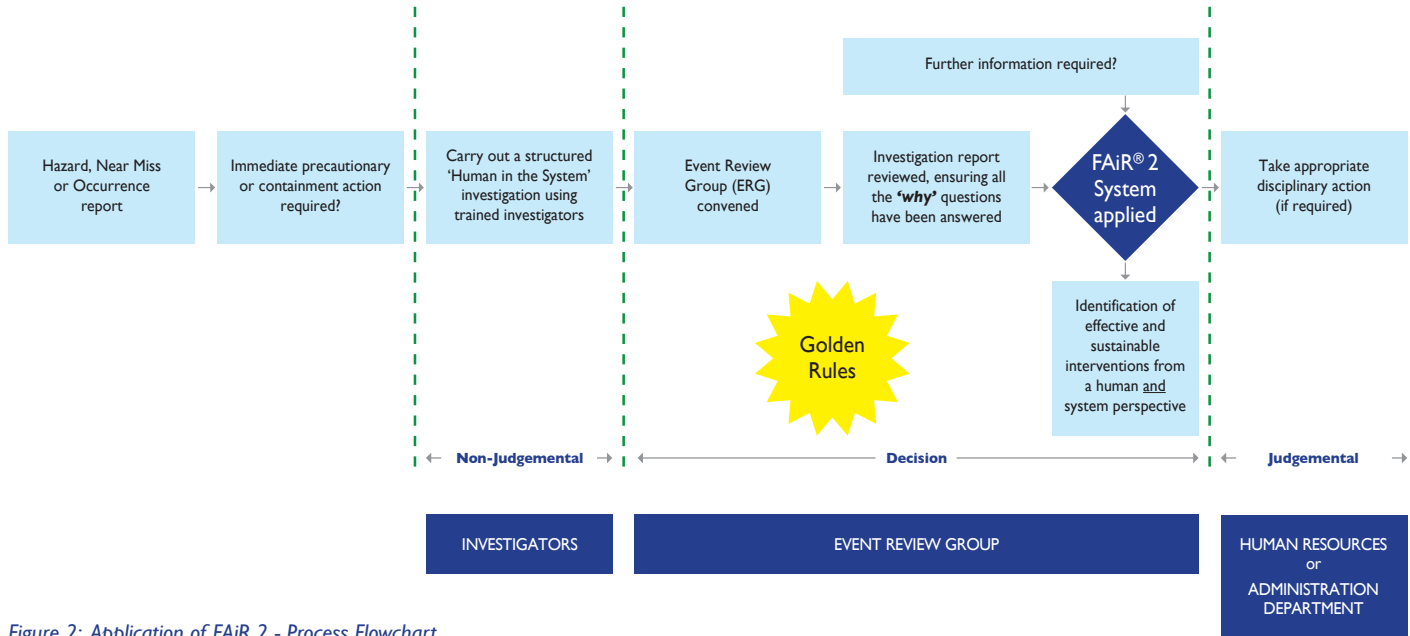


Figure 2: Application of FAiR 2 - Process Flowchart

STEP 1: Classify the Behaviours

To apply the FAiR[®] 2 Behaviours Analysis Flowchart on page 9, the Event Review Group (ERG) should answer each question based upon factual information gathered during the investigation. Should these investigation results require any clarification, the ERG should verify directly with the investigation team before continuing with the analysis.

In answering each of the questions, the following should be considered:

- ▶ **Was there a conscious and substantial and unjustifiable disregard for risk?** Did the individual knowingly take a significant risk whilst unjustifiably ignoring the potential for harm that could be caused?
- ▶ **Were the consequences as intended?** Did the individual deliberately set out to cause the outcome of the event?
- ▶ **Were rules intentionally broken?** Did the individual knowingly contravene rules or not follow procedures in order to undertake the task?
- ▶ **Was a correct plan of action selected?** Would the plan of action selected by the individual have ever achieved its goal?

- ▶ **Under the circumstances were all applicable rules available and workable and intelligible and correct?** In the circumstances of the event, was it possible to complete the task in line with all applicable rules or procedures? Has the investigation taken due account of local 'norms', for example where seemingly benign shortcuts (or workarounds) have become routine to compensate for rules and procedures that are ambiguous or difficult to apply in practice?
- ▶ **Was the action at the time of the event beneficial to the organisation?** Did the individual consider that their actions were for the good of the organisation or were they based upon self-interest?
- ▶ **Was the action at the time of the event outside of normal practice?** Did the individual find themselves in a situation which differed considerably from the expected operating scenario?

Having responded to each of these questions, one of the eight behavioural classifications summarised on page 14 will be reached.

Behaviours Analysis Flowchart

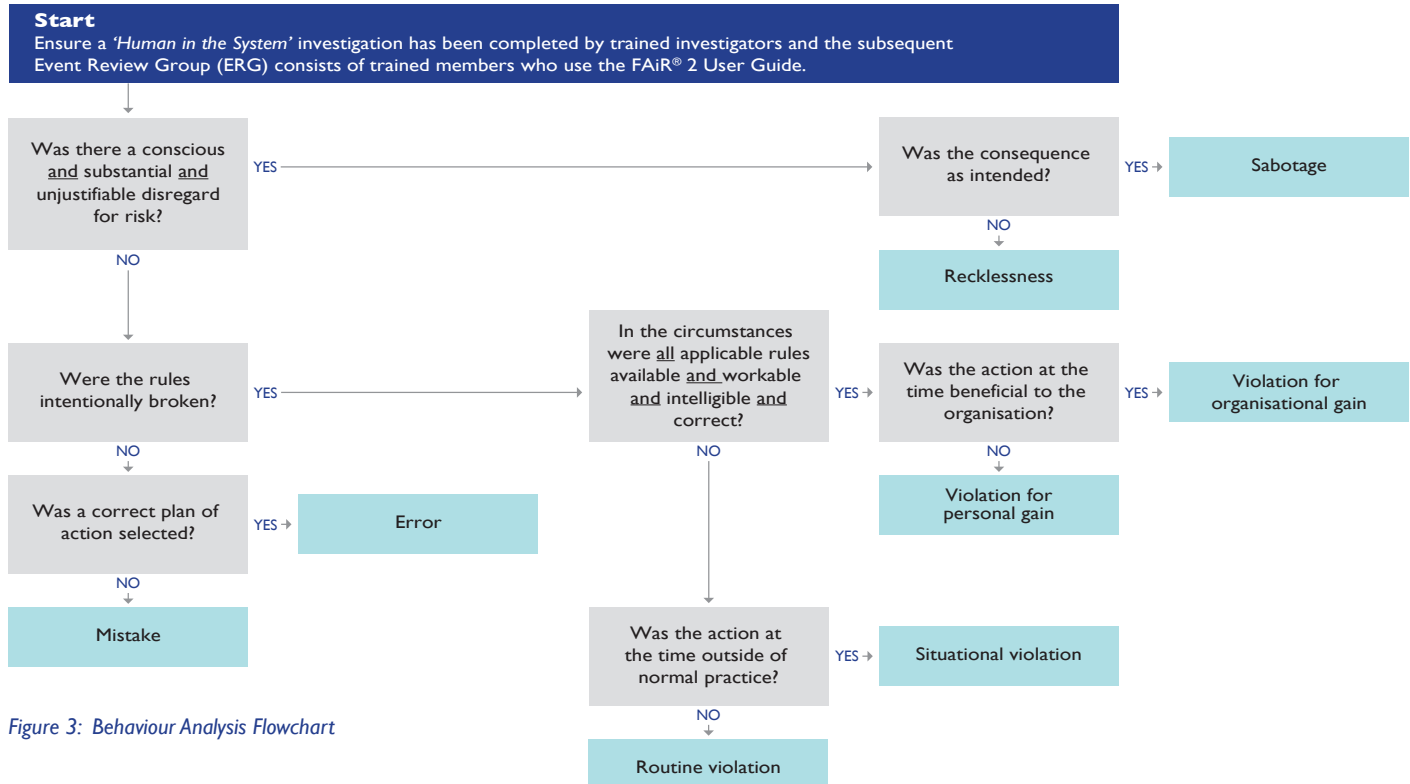


Figure 3: Behaviour Analysis Flowchart

STEP 2: Apply the Additional Tests

These tests and activities are designed to help the ERG confirm or modify the results of the behaviours analysis on page 9.

The Substitution Test

Would another person with the same levels of professional education, training and experience behave in the same way in the same circumstances?

This test is used to assess whether another individual with equivalent knowledge and experience might have reasonably followed the same course of action under the circumstances. If the answer is yes, the recommended interventions primarily need to address any systemic weaknesses to prevent or reduce the likelihood of recurrence.

The test could involve discussions with peers, observation and/or reference to other types of information either from the original investigation or undertaken on behalf of the Safety Manager or ERG.

To prevent the introduction of pre-existing knowledge or bias at this stage in the process, subsequent evaluation of additional information by the ERG should ensure that peers:

- ▶ Have a similar grade, rank and/or certification capability and level of experience
- ▶ Must not be members of the associated investigation or ERG team, or any other associated committee

The Routine Test

Has this event happened before to either the individual or to the organisation?

This test requires an evaluation of internal safety information and seeks to ascertain whether:

- ▶ The actions of the individual were in fact normative i.e. they reflected everyday working practices or a normal way of working when carrying out the task involved when the event occurred (this should align with the findings of the Substitution Test)
- ▶ The individual has been involved with similar events previously
- ▶ The organisation has experienced similar occurrences previously but remedial actions have failed to prevent recurrence. For example, replenishing an engine oil tank with incorrect fluid, or an uninitiated opening of a flight deck Direct Vision (DV) window during takeoff acceleration

Test Results

Evaluating the results of both the Substitution and Routine Tests (including establishing whether the behaviours are routine or whether the event has happened previously):

- ▶ Will have a direct influence upon determining the most appropriate interventions
- ▶ May diminish the level of individual accountability (See Step 3 on the Tests, Interventions and Accountability Diagram, page 11)

Tests, Interventions and Accountability

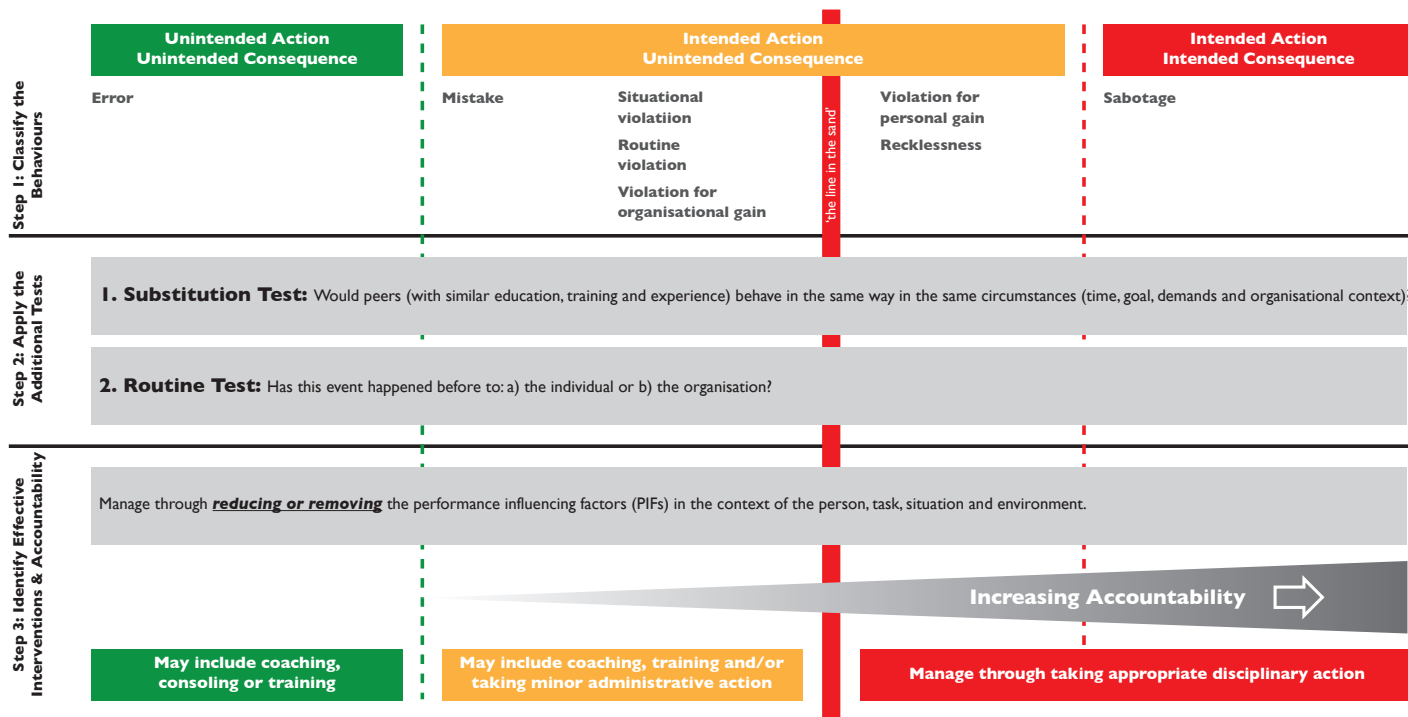


Figure 4: Tests, Interventions and Accountability

STEP 3: Identify Effective Interventions and Accountability

To improve Safety Performance, one of the most important roles of the ERG is to decide on the suitability of the proposed recommendations for intervention(s) made within the 'Human in the System' investigation report. Based on these, the results of the additional tests in Step 2, plus any supplementary information available, the ERG then has four options:

- ▶ 'Accept' the original recommendation(s)
- ▶ 'Reject' the original recommendation(s)
- ▶ 'Amend' the original recommendation(s)
- ▶ 'Propose' a new recommendation(s)

The ERG should ensure that all agreed recommendations follow the 'SMART' (Specific, Measureable, Achievable, Realistic, Time bound) approach.



Figure 5:
SMART Recommendations

Note: Involving those concerned in the investigation in the identification and selection of effective interventions is highly recommended and, when appropriate, the ERG should ask Subject Matter Experts (SMEs) to help ratify the recommendations.

3.1 Determine Effective Interventions

For an intervention to be successful, it needs to focus on the 'Human in the System' and specifically relate to the performance influencing factors (PIFs) identified in the investigation as well as the type of behaviours determined by the FAiR[®] 2 Behaviours Analysis Flowchart.

Errors, mistakes and violations all have differing psychological and motivational precursors and it is essential that consideration is given to this when developing an intervention. For example, issuing a Safety Notice reminding people of their responsibilities to follow the rules, when procedures were found to be ambiguous or where the individual does not possess the skills required for the task, would be ineffective in reducing the likelihood of recurrence.

Depending on the behaviour and accountability attributed, changes may be made at the individual, task, situation or environment (wider organisational systems) level to remove or reduce the PIFs. This may include coaching, training or taking appropriate administrative or disciplinary action for the individuals involved in line with existing organisational HR processes.

STEP 3: Identify Effective Interventions and Accountability (Cont)

Addressing specific types of behaviour

These models can be used to develop interventions that are effective at addressing specific individual behaviour types.

- ▶ **Errors** are skill-based failures occur at the point of execution. An individual either does not possess the skills to perform a task or is undertaking a highly routine task that leaves him/her prone to slips and lapses (often caused by distractions and interruptions).
- ▶ **Mistakes** are typically knowledge or rule-based and involve failures in planning or decision making. Either an individual does not possess the knowledge to undertake a task or there are issues with inadequate or ambiguous rules and procedures.
- ▶ **Violations** are motivation-based and usually involve an intentional decision by an individual to deviate from the applicable rules and procedures.

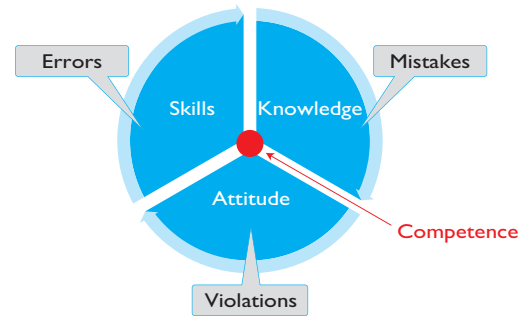


Figure 6: Competence Model - Behaviours

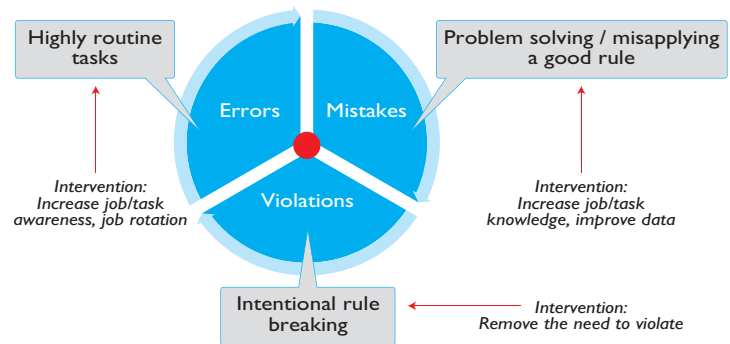


Figure 7: Interventions in relation to error types

STEP 3: Identify Effective Interventions and Accountability (Cont)

Interventions based on types of error

Once behaviour types and their precursors have been determined from factual evidence gathered following a 'Human in the System' investigation, appropriate interventions can be developed using the table below.

Behaviour	Intervention
Error	Address the human PIFs identified; this may include improving skills, a distraction policy, increased task awareness or job rotation for highly routine tasks. Encourage open reporting to highlight potential error provocative tasks and conditions.
Mistake	Address cognitive errors through performance management and training to improve knowledge and ensure data and information is available, workable, intelligible and correct. Encourage reporting to highlight issues with data and information.
Situational Violations Routine Violations Violations for organisational gain	Address any systemic problems including removing the perceived need to violate. Encourage reporting from staff to uncover situations where violations may occur. Reinforce acceptable / unacceptable behaviour particularly how staff are expected to react in sub-optimal situations. For example, by encouraging a Questioning Culture enabling staff to say 'stop'.
Violation for personal gain	Manage through appropriate disciplinary action.
Recklessness	Manage through appropriate disciplinary action.
Sabotage	Manage through disciplinary action. Civil and/or criminal prosecution.

Table 2: Behaviours to Interventions

STEP 3: Identify Effective Interventions and Accountability (Cont)

3.2 Determine Accountability

The final role of the ERG is to identify any levels of accountability for all those involved, not just focussing on personnel at the 'sharp end'. This is done in line with an organisation's Just Culture policy and supporting procedures.

A Just Culture aims to draw a notional line in the sand between acceptable and unacceptable behaviours. The Baines Simmons FAiR® 2 System is designed to facilitate this aim by determining which behaviours should be managed through either administrative or disciplinary action.

Behaviours that would attract an appropriate level of disciplinary action are violations (rule breaking) for personal gain, recklessness and sabotage. All other behaviours should be managed through removing or reducing PIFs and occasionally this may include taking minor administrative action.

Following completion of the 3-Step FAiR® 2 process, the ERG or other responsible party, may decide to apply the proportionality test.

The Proportionality Test

What safety value will punishment have?

This test should be used to determine the appropriate extent of any administrative or disciplinary action in terms of its contribution to safety learning and improvement. In particular, it can be used to compare the benefits that may be gained by applying discipline with any potentially negative effects on Safety Culture development depending on its maturity at the time. For example, being seen to apply discipline where there is a marginal case could threaten the evolving maturity of Just and Reporting Cultures and therefore, ultimately, Safety Culture.

Appendix I: The Role of the Event Review Group (ERG)

With the ultimate objective of improving Safety Performance, the Event Review Group (ERG) has three key functions:

- ▶ To ensure a Human Factors-centric investigation and report is complete, identifying the root cause, contributing factors and answering all the 'Why did it happen?' questions
- ▶ To ensure effective interventions are put in place following an event
- ▶ To determine any potential accountability

The Role of the ERG Chairperson

The ERG Chairperson is responsible for ensuring that the 3-Step FAiR[®] 2 Process has been followed according to the organisation's procedures by:

- ▶ Leading and facilitating the ERG and ensuring it keeps to the 3-Step agenda.
- ▶ Holding the ERG to account for using the FAiR[®] 2 system appropriately and following the '12 Golden Rules'.
- ▶ Ensuring the ERG has the appropriate composition and that everyone involved is appropriately trained with the right levels of competence.

- ▶ Ensuring ERG proceedings have been documented in either hardcopy or electronic format to enable the following:
 - Ownership and tracking of interventions
 - Trend analysis – 'proof' of being a Just organisation
 - Safety Assurance audit/review – internal and external
 - Aiding future Routine Tests
 - Reviewing any decisions around levels of accountability
 - Safety communications/feedback on Safety Performance

Typical ERG Composition

- ▶ SMS Manager
- ▶ Trained ERG members (an uneven number if possible)
- ▶ Subject Matter Experts (as required)

Note: To minimise bias and preserve impartiality the Manager of the area in which the event has occurred should not be part of the ERG or take part in the related ERG decision(s).

Appendix 2: Behavioural Classification Definitions

Error	The plan of action may be entirely appropriate, but the action itself does not go according to plan. Skill-based errors are associated with three related aspects of human information processing: recognition, memory (an error of omission or lapse) and attention (an error of commission or slip). For example, misinterpreting information on a display or gauge; pulling an incorrect circuit breaker; forgetting to complete a step of a task because of an interruption or distraction.
Mistake	An action that goes according to plan but where the plan is inadequate to achieve the desired goal. Known as 'cognitive errors', mistakes can be split into two categories: rule-based mistakes or knowledge-based mistakes. Mistakes often arise when dealing with a problem for the first time or during an unexpected or novel scenario. Rule-based mistakes can be divided into two categories: misapplying a good rule (assumptions) or applying a bad rule (habits). Misapplying good rules can happen in circumstances that share common features for which the rule was intended but where significant differences are overlooked. For example, using known good information based on knowledge of one aircraft type but on a new type of aircraft where it is no longer applicable.
Situational violation	Where deliberately not following the rules was the only way to complete the task. Individuals may assert that, given the circumstances in which they found themselves, the only way to get the task done was to break the rules. For example, under time pressure, an individual uses incorrect equipment to achieve a task as the correct equipment was unserviceable at the time, or a pilot continuing with an unstable approach due to fast following traffic.
Routine violation	Where deliberately not following the rules when completing a particular task was 'normal' behaviour (accepted by peers and immediate supervisors) within the organisation in the circumstances.
Violation for organisational gain	Deliberately not following rules with the aim of benefiting the organisation. An individual may believe that their actions are for the good of the organisation in terms of a reduction of time, cost or resource; or to achieve organisational goals such as meeting schedules or targets. For example, missing out steps in a task that are judged to be superfluous or that are unachievable within the time available to meet a deadline or schedule.
Violation for personal gain	Deliberately not following rules with the aim of benefiting the individual. Motivation-based, actions can be 'corner-cutting' to complete a task more quickly or to circumvent seemingly laborious procedures. They can also be 'thrill-seeking' as a means of alleviating boredom or as a demonstration of ability or skill. For example, not completing a task to get away from work on time; not using the correct equipment because it requires effort to obtain or taxiing at excessive speeds to meet a personal deadline.
Recklessness	A conscious and substantial and unjustifiable disregard of visible and significant risk. Whilst there is no intent to do harm to others, recklessness implies that an individual knowingly ignored the potential consequences of their actions. For example, coming into work under the influence of alcohol or knowingly operating a sector in an excessively fatigued state having not taken the required rest period.
Sabotage	Malicious or wanton damage or destruction. To determine whether an individual's actions constitute sabotage there needs to be intent for both the actions and the consequence to cause damage or disrupt operations.



FAiR[®] 2

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