Pendulum Shifts, Context, Error, and Personal Accountability

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ABSTRACT: This paper describes a series of tools that were developed to achieve a balance in understanding LOWs and the human component of events (including accountability) as the INL continues its shift to a learning culture where people report, are accountable and interested in making a positive difference – and want to report because information is handled correctly and the result benefits both the reporting individual and the organization. We present our model for understanding these interrelationships; the initiatives that were undertaken to improve overall performance.

1 INRODUCTION

In recent years the quality of human performance causal investigations has drastically improved. A variety of processes, tools and techniques have been developed and applied across many industries. What has resulted is a balanced and deeper understanding of why a specific event occurred and why a given individual acted in a certain way. Prior to this advent, these analyses were primarily focused on who took what action and then simply remediating that individual – often through training, procedure modification and/or some form of punitive measure.

What was long overlooked was the contribution of the machine system, organization system, and specific situational context to the event itself. Today INL spends a great deal of effort studying these aspects of events to identify existing (latent) organizational weaknesses (LOW), and to understand the context of the event itself, in order to fully appreciate what was in the mind of the person(s) involved. INL efforts to look at human error as a symptom that is systematically connected to features of people's tools, tasks, and operating environment has assisted it in progressing toward a culture where the reporting of events and near misses is more common, and individuals feel empowered and safe in doing so, ultimately resulting in better performance and safety for the organization. These efforts have also helped INL think about the issue of individual accountability and culpability in a new way that takes into account many of the situational and organization factors that influence human behavior – continually moving toward what has been termed a "just cul-

ture." Within a just culture, "an atmosphere of trust exists where employees 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 behavior." (Reason 1997).

INL emphasis on latent organizational weaknesses (LOWs) has created a new problem: a tendency to attribute *all* undesired behaviors to LOWs; this "over correction" has unintended consequences. It has led the organization away from the human component that includes personal accountability and understanding the intrinsic elements of why undesired behaviors occurred. This occurs when investigators explain "what" people failed to do or should have done without explaining why an individual did what they did. Investigators may stop short of asking those final "tough" questions and instead superficially apply tools and processes that lead to more antiseptic and easy answers. Further, it diminishes expectations for institutional honesty and accountability and inhibits organizational learning. Not every event or incident is due to a weakness in the organization; often, a lapse, omission, or error by one person or a very few people results in degradation of the safety envelope, process disruption, a near miss or even injury. Humans make errors, and a balanced accountability for those errors is a necessary part of a just culture. If a human error is mislabeled as a LOW, the resulting remedy potentially fails to address the true cause. Both safety and institutional honesty can be weakened as a result.

The goal is to achieve a balance in understanding LOWs and the human component of events (includ-

ing accountability) as the INL continues its shift to a learning culture where people report, are accountable and interested in making a positive difference – and want to report because information is handled correctly and the result benefits both the reporting individual and the organization.

This paper discussed our model for understanding these interrelationships; the initiatives that were undertaken to improve overall performance.

2 APPROACH

As with any research institution the INL's mission success hinges upon its ability to perform world-class research productively and safely. Each event that occurs has an adverse impact on productivity and diminishes performance as well as potentially hurting an individual. Further, if we do not learn form the event and the actions taken based upon that event do not reduce the probability of another event the impact becomes multiplicative. Our goal was to ensure that we gained insight and information from every event to ensure that we could learn from and implement effective and sustaining corrective actions. We began by first understanding our current situation which are summarized in the bullets below.

- Our event investigations have lead to the creation of ineffective corrective actions or in other words we have failed to learn.
- We have failed to answer the fundamental question of why undesired behaviors have occurred and simply applied latent organizational weakness (LOW) labels to events and actions.
- Critiques do not answer the tough questions of really understanding what happened and why.
- Concern to limit liability of individuals, or groups has led to less institutional honesty as well acceptance of expressing the real situation in an open and just manner.

As previously stated there was sufficient evidence that we had perhaps over compensated for LOWs which had prevented us from really understanding the event, the undesired behavior and the accountability for those actions. We had become out of balance and what was needed was to ensure:

- Leader ownership and engagement in the process
- Leadership and employee accountability understood
- More learning from our mistakes
- Reduced consequences of future mistakes
- Timely reporting, and learning

To that end we created two tools to improve our processes and achieve these desired outcomes. The goal was to achieve a balance in understanding la-

tent conditions and the human component, as well as ensuring that their interrelationship was understood (see Figure 1). Getting to the causes of an event and developing the right corrective actions requires understanding LOWs and the human component as part of an integrated system.
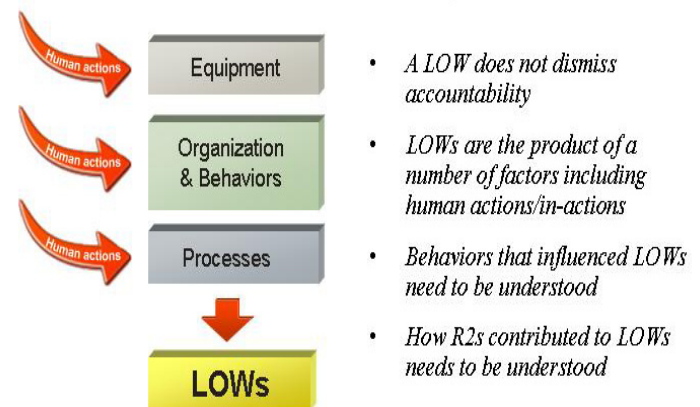

Figure 1 Understanding LOWs

Exploring and understanding how human actions interact with equipment, the organization, the processes of the organization are critical to understanding the latent organizational weaknesses. LOW's are the product of many things including individual behaviors and their interaction with the roles and responsibilities (R2s) of the performer. The bottom line is that a LOW does dismiss accountability and at the same time can go to a long ways to understanding what happened and why. Except in the extreme, humans do not generally engage in tasks with the intent of failing.

The tools that we developed were directed at assisting in understanding the underlying why through the human component and personal accountability, and influencing the behavior of managers and leaders in the process.

3 TOOLS FOR ASSESSMENT OF HUMAN COMPONENT AND PERSONAL ACCOUNTABILITY, AND KEY LEADERSHIP BEHAVIORS

3.1 Human Component and Personal Accountability

The first tool is comprised of a set of questions that are administered at various stages of the investigation process. The specific questions chosen should be graded commensurate with the significance and type of an event. The questions are crafted so that their answers explain the human component – i.e., why undesired behaviors occurred and accountability.

We must ask questions that answer why undesired behaviors occur and hold people accountable for their undesired behavior within the context of the event based on their given roles, responsibilities, and authority. At times, identifying the **why** of an event requires asking difficult questions. These questions result in answers that hold people accountable, because the performer will have to justify his/her behavior. The answers to these questions help quantify the attributes of why and accountability. The questions below provide additional meaning to what is meant by the human component. Of course the list of questions should be tailored to a specific investigation.

3.1.1 Attributes of Why for Undesired Behaviors and Accountability

1. What did they believe they were accountable for and was it consistent with others' paradigm?
2. At the time, did they believe that their actions were consistent with their perceived accountability?
3. Was there alignment of each person's individual responsibilities with their requisite authority?
4. Leaders implement effective self-assessment programs. Why did some factors take precedence (have greater influence) over others on their actions or lack thereof?
5. Do they think they drifted from their accountability paradigm and, if so, why?
6. Did they knowingly violate a rule/requirement?
7. Did they believe they were performing in accordance with applicable procedures? Was it possible for the employee to follow the step as written? Did the step as written correctly implement the rule/requirement?
8. Did they assess and believe they were performing within acceptable risk?
9. Did the employee make a conscious decision to behave in a manner that represented substantial and unjustifiable risk? And, if so, what was the basis for their decision?
10. Did the employee have a good faith but mistaken belief that the violation was insignificant and justified? Why?
11. Should the employee have known they were taking a substantial and unjustifiable risk (a behavior where the risk of harm outweighs the social benefit attached to the behavior)?
12. Are there system performance shaping factors (outside the control of the employee) that are increasing the probability of at-risk behaviors to occur?
13. How would you categorize the behavior to include: human error (slip, lapse, or mistake), at-risk behavior (behavior choice that increases risk where risk is not recognized, and mistakenly believed to be justified) or reckless behavior (conscience disregard of a substantial and unjustifiable risk)? (Note: these are not necessarily mutually exclusive.)
14. Did the description of why replace *human error* with another human factor label that only describes *what* and not *why?* For example, replacing human error with loss of situational awareness does not tell us any more about why. Verify the description answered and explained *why* people did what they did, as opposed to simply judge *what* people did.
15. Assess substitution: In the same context, would another behave the same? Then, based on the analysis, is there a sound basis to conduct/recommend an extent of conditions or extent of causes?
16. Did the use of psychological labels to explain why cloud the issue rather than clarifying the real cause(s) of an event? Does the description leave a trace for others to follow? Note: Show your analysis, and make it easier for others to understand why you came to the conclusions you drew.
17. A large part of human error investigation is about the situation in which the human was working; the tasks being conducted; and the tools that were used. Present a reconstruction of the mindset of the performers that begins with the circumstances in which the mind found itself.
18. The description of why should include: how the process or situation changed over time; how people's assessments and actions evolved with the changing situation; how features of the tools, tasks, and organizational or operational environment influenced the performers' assessment and actions.
19. Why did/was the LOW allowed to exist? Was it not recognized, or was it recognized and not prioritized appropriately?
20. How did behaviors create or perpetuate LOWs?
21. What are the interrelationships between LOWs and R2s?
22. Was the individual fully engaged? Was there some physical or emotional event taking place that impeded the individual's ability to be fully present (i.e., was he/she fully fit for the duty assigned)?

3.2 Key Leadership Behaviors

Leadership behaviors are the most influential factor in making the event investigation and corrective action processes achieve their desired outcomes. A number of expected behaviors of leaders and others, both in the steady state and during the event investigation and corrective action processes are presented. The discussion explains options for successful execution of the behaviors, as well as pros and cons for each option. It describes a number of expected be-

haviors of leaders and others, both in the steady state and during the event investigation and corrective action processes. The discussion explains Why and How the roles and responsibilities of leaders can be more effectively fulfilled. The behaviors equally apply to abnormal events, critiques, injury and illness investigations, cause analysis, human performance investigations, and common cause analysis.

3.2.1 Leaders Demonstrate Ownership and Commitment

The manager who charters the event investigation and assigns the team leader and team members should come from the line of management in which the event occurred. To provide an element of independence and objectivity, consideration should be given to having the team leader come from an organization outside of the organization in which the event occurred. At the same time, the team should have strong representation from the organization in which the event occurred. Commitment to the investigation process begins with establishing a common understanding of desired behaviors and how to execute them effectively. Taking ownership requires management to maintain an objective posture that includes institutional honesty. Objectivity can be compromised if management prematurely concludes they understand what caused an event and what subsequent corrective actions are needed. Institutional honesty can be compromised by management exercising pressure to limit liability and refusing to accept a report that contains a reference to an organizational weakness. Ownership is also demonstrated by ensuring that adequate resources are applied to the investigation team. This requires line management to address a challenge of balancing regulatory (time) constraints with ensuring that a credible and effective investigation is performed.

3.2.2 Leaders are Involved Enough to Decide How Much is Enough and Ensure Timely Completion of Investigations

Timely involvement of leaders in event investigations is needed. The knowledge and understanding gained from this involvement, in combination with their day-to-day understanding of the organization best qualifies the leader to decide what level of rigor is needed for the overall event analysis and for why and accountability analysis. After the decision is made on the type of investigation, team assignment(s) must be made as soon as possible.

3.2.3 Leaders Own and Ensure Effective Recommendations and Corrective Actions

The corrective action team should include members of the event investigation team. This continuity will minimize the amount of speculation and blind interpretation of the investigation report made by the corrective action team. Continuity in team membership will increase the ability to share the context, thinking, and tacit knowledge of the investigation team, and thus increase the likelihood of producing an effective set of corrective actions. In all cases, line management needs to have first hand understanding of the event investigation process and results to where they can actively lead their development and own corrective actions. It is recommended to use the analyst member of the event investigation team as a facilitator in the corrective action process – help the team validate that proposed corrective actions are aligned with the causes, information gathered, and recommendations of the investigation team. Caution should be taken in having the analyst actually develop recommendations and corrective actions. The concerns are twofold: (1) diminishing line ownership of the actions, (2) putting the analyst in an uncomfortable position –when the actions that need to be taken are controversial or overlap/interrelated with disciplinary actions. It is advocated that line management and the corrective action team discuss potential corrective actions and countermeasures with the persons involved in the event, as well as members of the audience whose behavior the actions are targeted to influence. Ask these individuals if they believe the proposed corrective actions would prevent a reoccurrence or significantly reduce the probability of the event. Corrective actions should be clear, concise, and measurable. Past recommendations, corrective actions, and measures of effectiveness for past events should be studied and used to shape current recommendations and corrective actions. Properly understood and applied, past corrective actions can facilitate organizational learning and avoid reinventing the wheel.

3.2.4 Leaders Ensure Latent Conditions Beyond the Event Causes are Properly Dispositioned

The investigation process should leverage every identified opportunity to learn and improve Laboratory performance and safety: In addition to answering why and accountability, the causal analysis process should identify and report latent organizational weaknesses that go beyond the direct causes of the event. Accordingly, corresponding recommendations and corrective actions should be generated, with accountability appropriately assessed. These expectations are consistent with the overarching objectives of the process: 1) prevent reoccurrence (reduce the probability) of similar events and 2) enabling mission accomplishment through improved productivity and safety.

3.2.5 *Leaders set the expectation that the human component, as well as any latent organizational weaknesses, will be adequately addressed in the investigation process*

The leader who commissions an investigation should make their expectations explicitly clear to the team. They should reinforce the need to understand the human component and for the team to provide a framework for leaders to assess accountability. Open discussions should be held with the team that reinforce the leader's expectations for an objective and candid investigation and identify and resolve any potential barriers to the team accomplishing its purpose.

3.2.6 *Leaders hold people accountable in a balanced and appropriate way*

Leaders must hold people accountable. In doing so, they must first assess if an individual had the responsibility and requisite authority for what they are being held accountable for. Accountability should be assessed as part of a system, with a clear understanding of why behaviors occurred both individually and organizationally (e.g., norms and standards). An assessment of accountability should take into consideration the overall performance of an individual, and not only their performance for a specific event.

3.3 *Summary*

These tools are helping to make progress at the INL in improving our learning culture. As with all organizations this is a continuous process requiring constant attention and vigilance. We continue to improve by seeking to understand our performance through the nexus of humans, machines, and process.

3.4 *References*

Reason, James. 1997. Managing the Risks of Organizational Accidents. Ashgate Publishing Company.