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Safety Differently – A New View of Safety Excellence

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Introduction

According to the United States Bureau of Labor Statistics (2016), in 2015 the occupational fatal injury rate in the United States was 3.4. This represents a disappointing lack of change over the previous years' occupational fatal injury rates, with the average occupational fatal injury rate in the United States remaining at 3.4 since 2008, according to analysis of data found on the Bureau of Labor Statistics website. Others within the safety profession have noted this stagnation of fatal incident statistics (Dekker & Pitzer, 2016; Loud, 2016; Manuele, 2013), each noting that progress in safety, as measured by the number of major accidents appears to have plateaued. In a review of fatal injury rates in the United States conducted by the author, although the fatal injury rate has declined 35% from 1994 to 2015, in the last 10 years (2006-2015) the fatal injury rate has only dropped by 15.8%.

This plateauing of fatal injury rates suggests that progress in preventing major accidents may have the features of an asymptote, a line that approaches a curve but never touches it. As Dekker (2015) notes, "asymptotes point to dying strategies" (28). The strategies utilized to achieve the progress in preventing major accidents are providing diminishing returns. As a result, calls for new approaches to safety management have grown (Dekker, 2015; Dekker & Pitzer, 2016; Hollnagel, 2014; Hollnagel, Woods, & Leveson, 2006; Loud, 2016; Manuele, 2013).

Safety Differently grew out of these calls, as safety researchers began to realize that traditional approaches were growing increasingly inadequate to deal with the complex realities of the work processes of today (Dekker, 2015; Hollnagel, 2014; Hollnagel, Woods, & Leveson, 2006; Hummerdal, 2017). Building upon decades of research in social and safety sciences, Safety Differently seeks to develop a more proactive, productive, and inclusive approach to safety management. Traditional safety management approaches tend to focus primarily on the prevention of negatives (Hollnagel, 2014). By contrast, Safety Differently seeks to identify and learn from things that go well as a means to not only prevent or minimize the negatives, but also to achieve more successful outcomes. This article provides an overview of the Safety Differently approach, the basic tenets of Safety Differently, and recommendations for implementing a Safety Differently approach within an organization.

Safety - The Focus on Negatives

Typical approaches to safety management emphasize the identification and elimination or reduction of negatives. These negatives include accidents, incidents, risks, hazards, "human

error", and "unsafe actions" (Hollnagel, 2014). For example, the Board of Certified Professionals (2017) states that:

> "Safety professionals identify hazards and evaluate them for the potential to cause injury or illness to people or harm of property and the environment. The safety professional recommends administrative and engineering controls that eliminate or minimize the risk and danger posed by hazards."

The American National Standards Institute's voluntary consensus standard that defines the scope of practice for a safety professional similarly offers:

> "The scope and functions of the professional safety position shall be to:
> - Anticipate, identify and evaluate hazardous conditions and practices.
> - Develop hazard control designs, methods, procedures and programs.
> - Implement, administer and advise others on hazard controls and hazard control programs.
> - Measure, audit and evaluate the effectiveness of hazard controls and hazard control programs" (American Society of Safety Engineers, 2012).

Although the organization may utilize the outcomes of these processes in a productive way, the scope and function of the safety professional, as defined by each of these organizations, is oriented around the elimination or management of negatives. The American Society of Safety Engineers (2017), in defining what occupational safety and health (OSH) professionals do, explains it this way:

> "[OSH professionals] provide employers advice, support and analysis to their employers to help them establish risk controls and management processes that promote sustainable business practice. They work to reduce (and eliminate) fatalities, injuries, occupational diseases, sickness and property damage."

This definition situates the practice of the safety professional toward the goal of promoting "sustainable business practice," but identifies that the mechanisms that the safety professional uses to achieve this goal is through reduction, control, and elimination of negatives.

The goal of eliminating negatives, such as fatalities and injuries, is certainly a laudable one that is not questioned in this paper. However, the intense focus on negatives has analytical consequences. The safety profession is oriented toward identifying, understanding, and management things that go wrong at the expense of understanding things that go right. Dekker (2006) notes that there currently is not a good understanding of normal work processes in organizations, which may be necessary to enable accident prediction.

Hollnagel (2014) notes that misunderstanding normal work processes may not be trivial. As an illustration, Hollnagel (2014) created a chart (shown in Figure 1) of a system with a failure rate of 10^{-4}, or one failure in 10,000. The traditional focus of understanding and eliminating negatives means we focus intensely on the one failure at the expense of the 9,999 times when things went well. This means that most of organizational life is unexamined by traditional safety approaches.

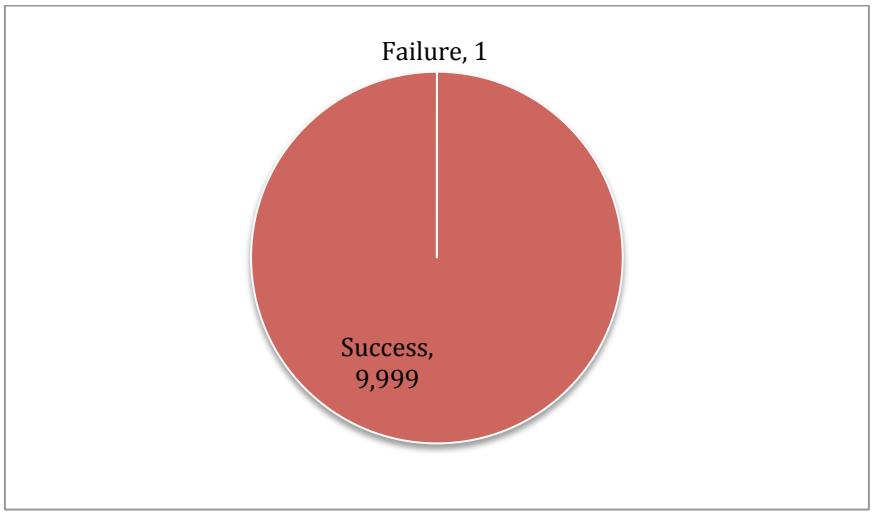

Figure 1 - One failure in 10,000 (Adapted from Hollnagel, 2014)

Hollnagel (2014) argues that the focus on negatives not only leads to misunderstanding of what it takes to make an organization successful, it also leads to misunderstandings of the causes of failure. For example, the belief that "human error" or "unsafe acts" are the primary cause of most accidents may stem from this negative focus (Besnard & Hollnagel, 2014). However, the underlying processes that lead to many of the errors and faulty decision-making are present because they are adaptive (Hollnagel, 2009; Gigerenzer, 2008). Put another way, when it comes to human performance, the underlying processes are the same for success and failure and one cannot fully understand how humans fail without understanding how they succeed (Woods et. al., 2010). This calls into question the effectiveness of the current negative focus of safety management.

Safety Differently

By contrast, the Safety Differently model of safety management is based on the idea that understanding and improving normal work processes is central to improving safety performance (Hummerdal, 2017). Rather than seeing safety management as a means to improve work performance, Safety Differently sees the improvement of work performances as a means to improve safety performance. This change in perspective orients the safety professional to interact with the organization in new ways. In the Safety Differently model, the safety professional is a facilitator of work, rather than one that constrains work processes.

In particular, Safety Differently provides an alternative perspective to other safety management practices in three areas:

- How safety is defined
- The role of people
- The focus of the organization

How Safety Is Defined

Although numerous definitions exist in legal and regulatory standards, there currently is no agreed upon definition of "safety" within the safety profession. However, as discussed above, the

scope of the safety profession is based heavily on the reduction of negative events, such as accidents. This is consistent with a common way that safety performance is measured, the use of injury statistics. The implicit message is that safety is defined by the absence of negatives.

By contrast though, **Safety Differently defines safety as a capacity to be successful in varying conditions**. This definition inherently sees safety not as a goal unto itself, but as an enabling objective within the organization. Indeed, no organization exists with the sole goal to be safe. Instead, safety enables the organization to achieve its fundamental mission. However, the achievement of a successful outcome itself is not sufficient. Research suggests that organizations can push margins to achieve success in a way that makes failure more likely (Dekker, 2006; Woods, 2003; Patterson & Wears, 2016). Therefore, the goal of a safety management system should be to help the organization achieve success as conditions change. This is consistent with the definition of organizational resilience (Hollnagel, Woods, & Leveson, 2006).

A key threat to the achievement of sustainable success is when resources are insufficient to meet demands (Hummderdal, 2017). In these situations, workers are forced to adapt to fill the resource-demand gap. These adaptations are similar to the "practical actions" described by Snook (2000). Unfortunately, this creates significant variability in work processes as resource availability, work demands, and the abilities of workers to adapt all adjust over time (Hollnagel, 2009). Most of the time this variability goes unnoticed because workers adjust their performance in a way that hide the resource-demand gap (Woods & Hollnagel, 2006). However, sometimes the performance adjustments that workers make fail, and an accident may result (Hollnagel, 2009).

This makes normal work a central area of focus in the Safety Differently model. By studying normal work and what conditions enable or constrain normal work, safety professionals can assist workers in overcoming the constraints and expand the features that enable them to be successful (Hummderdal, 2017). Where work becomes difficult, you will often find adaptation, short cuts, and 'human error.' Increasing worker capacity to handle these situations will not only decrease the probability and unwanted risk will sneak into the system, but also will increase the ability of your workers to be successful. This naturally will have a net positive effect on production, aligning the goals of safety with the organization (Hollnagel, 2014).

People are a Solution to Enable

As stated above, the focus on eliminating negative events in safety often led to many misunderstandings about the role of people in both accidents and safety (Besnard & Hollnagel, 2014). As a result, much of safety practice has oriented itself in a way that treats people as if they are a problem or hazard that must be controlled (Dekker, 2015). The assumption appears to be that the system is reasonably safe enough as designed, but the erratic actions of people disrupt the system design, triggering accidents (Dekker, 2014b).

However, as noted above, organizations often work in a degraded system state. There are often never enough resources to meet the demands. Human ability to adapt fills this gap in reliable ways. Unfortunately, these same adaptations that work normally sometimes fail in context-specific ways (Woods et. al., 2011). When this happens we call it 'human error', but these same adaptations are also responsible for keeping the organization successful (Dekker, 2014b).

For this reason, the Safety Differently model notes that **people are a solution to enable or facilitate**. The unique ability for workers to adapt creatively to changing circumstances is a strength that organizations need to bring to bear on the complex problems they face (e.g., goal conflicts, resource scarcity, competition). Workers at all levels in the organization are constantly facing the realities of these complex problems, often on a daily basis. Therefore, they will be in a unique position to identify innovative solutions, or at least to assist in identifying problems that will be unsuccessful. As Hummerdal (2015) notes, "organizations are filled with people whose capacity goes above and beyond the roles and responsibilities that we have assigned them."

Safety is an Ethical Responsibility

One of the most disturbing trends in safety management is the explosion of safety as a bureaucracy (Dekker, 2014a). Much of safety practice is dominated by regulatory requirements and international standards. One only needs to peruse the brochures of safety conferences to see this. Heads of regulatory agencies are often keynote speakers and many breakout sessions are devoted to how navigate complicated regulatory requirements. What are not commonly seen in these brochures are presentations from people who do the work in question (with the curious exception of those who have been involved in accidents). By this anecdotal evidence, it appears that safety professionals are far more interested in what the regulatory agencies believe is 'safe' than what workers believe is 'safe.'

This leads to practices where safety professionals spend much time trying to ensure that workers comply with regulatory standards (Dekker, 2015). These safety practices are oriented to manage the bureaucratic accountability put on organizations and workers. This may lead to the development of the 'compliance heuristic,' where regulatory compliance becomes a substitute for safety management.

In the Safety Differently model, the organization is refocused toward seeing **safety as an ethical responsibility to those who do the organization's risky work**. This focus requires the organization to become far more interested in the realities of normal work and creating a safety management system that facilitates workers rather than one that holds them back. In effect, "safety is a service that [the organization] provides to their employees" (Hummerdal, 2017). This focus does not neglect regulatory compliance, but merely aims to create balance. The organization should be at least as interested in the concerns of their workers as they are of the concerns of the regulatory agency.

Challenges to Safety Differently

In the experience of the author discussing Safety Differently with numerous managers, safety professionals, and workers in many industries, many common challenges to the model have arisen. Some of these will be addressed below.

Safety Differently as Flavor of the Month

Many organizations report seeing many "flavors of the month" come and go, promising amazing, "silver bullet" type results (e.g., behavior-based safety, safety culture initiatives). Safety Differently is often put into this category. However, Safety Differently is not an individual process or tool that organizations can tack on to their existing organizational programs. Instead, Safety Differently is more of a mental model or a way to see the world. It does not replace what

organizations do (Hummerdal, 2017). Rather, it changes the lens by which we view organizational life, work processes, the 'causes' of accidents, and the sources of safety creation within the organization. By change this lens, it naturally changes what the organization sees and does. New practices will emerge, but old practices will continue. They will just be conducted in a different light.

As an example, the organization will still investigate accidents and incidents in the Safety Differently model. However, instead of looking for who the guilty party/parties are, investigations in the Safety Differently model focus on understanding normal work processes and how those processes led to an unintended and unwanted event in this particular case.

Safety Differently is Not New

Some have pointed out that some of the philosophies and/or practices in the Safety Differently model have been around for decades. This is, in many respects, correct. Safety Differently is based on decades of research and practice in the social and safety sciences, incorporating elements of systems thinking, complexity theory, cognitive systems engineering, social psychology, sociology, management science, human factors engineering, high reliability organization theory, and resilience engineering. In many respects, pointing out that Safety Differently is based on decades of research and practice is not a criticism, but a strength of the model.

However, many organizations have used the point that Safety Differently is not new to make the argument that they are already doing Safety Differently, and, therefore, nothing more is necessary. In the experience of the author, this is often not the case. The organization may have some pieces in place that resemble Safety Differently tenets, but closer examination often yields a focus on preventing negatives, on treating people as a problem to control or fix, and/or on orienting the organization toward satisfying bureaucratic accountabilities at the expense of enabling workers at the sharp end to perform work successfully.

Safety Differently Undermines Accountability

A key concern for many organizations upon hearing of the Safety Differently approach is based on the general idea that organizations need accountability to function effectively, and that Safety Differently undermines that accountability. Typically what the organization is referring to when they speak of accountability in this context is their ability to discipline individuals in response to errors or violations. However, Safety Differently does not mean to remove the organization's ability to discipline employees. Instead, Safety Differently reminds the organization that the goal is not rote compliance, but improved performance. By reviewing the normal work processes and looking for ways to enable workers to be more successful (instead of merely less prone to fail), the organization has more options for intervention. In effect, Safety Differently gives managers and safety professionals more "tools in the toolbox."

Furthermore, organizations must remember that accountability is one goal amongst many goals within the organization and some of these goals compete. For example, when the organization places an intense emphasis on accountability, in the form of discipline, this often leads to a reduction in the organization's ability to learn as the reporting of events decreases (Dekker, 2014b). The Safety Differently model allows the organization to balance the goals of accountability with learning and employee engagement more effectively.

Doing Safety Differently

For those organizations seeking to do Safety Differently should begin a discussion in their organizations about what the definition of safety is within the organization. Even if the organization has an explicit definition of safety, often the practices of the organization imply a different definition. For example, many organizations admit that safety is not defined by the absence of accidents, yet still measure how safe they are by the number of accidents they have. Or, an organization may value the creativity and innovation of its workforce, yet have a safety management system based on rote compliance with regulations and procedures. Having discussions with employees at all levels of the organization about how they define safety and how they perceive the organization defines safety may yield some interesting data about the values of the organization.

Once this information is gathered, the organization should seek to change or eliminate practices that reinforce the belief that safety is defined as the absence of negatives. In its place, the organization can begin conversations about what it wants out of a safety program. How can the safety program be oriented to enable positives, like innovation, creativity and meaning? One question that can spark interesting discussion is to ask employees at all levels *how would the organization manage safety if the regulator disappeared tomorrow?* Begin to create a safety organization that adapts to the conditions of work, rather than one that does the opposite. As you do so, additional practices will likely emerge revolving around enabling successful completion of work.

Focusing on Normal Work

Rather than wait for an accident to occur, begin the process of understanding and analyzing normal work. Build in processes that enable the organization to learn more about what happens on a daily basis. This can be as simple as conducting daily debriefing sessions for workers, similar to after-action reviews, commonly used in military contexts. Observations in the form of management site-walks or Gemba walks can also be used for this purpose (Gesinger, 2016). However, managers and safety professionals conducting these observations need to do so in the spirit of curiosity and learning, rather than looking for deviations, unsafe acts, etc. Training on how to interact with workers during these observations, including appreciative questioning skills, may be useful for this.

More focused and resource intensive approaches to understanding and analyzing normal work could be the use of "A Day in the Life of" sessions. In A Day in the Life of session, managers and/or safety professionals conducting work shifts with the workers (Gantt, 2015). This allows the managers the ability more closely see the world the way the workers see it. To see how things that seem like minor annoyances when discussed in a conference room can be major obstacles in the work environment. Additionally, camaraderie between workers and managers/safety professionals is built up through shared experiences, which enhances trust in the organization (Gantt, 2015).

Learning teams (Conklin, 2016) are another tool that may be used to understand normal work processes. In a learning team, employees work with a facilitator to learn about a particular operation and then collaborate to identify opportunities for improvement. By engaging those who do the work in this process, the workers get a better understanding of their job tasks, as well as

the opportunity to identify improvements. This allows for a sense of ownership in the solutions, which will make the improvements more effective overall (Conklin, 2016).

From all of these tools data will be gained about how work is normally performed. Safety professionals should treat all data as symptoms, understanding that people adapt their behavior to the conditions they are in (Woods et. al., 2011). By focusing on the conditions that influence behavior, safety professionals can look for sources of variability, such as the frustrations, dependencies, and sensitivities inherent in the work process (Hummderdal, 2017). Opportunities to dampen the variability or creating more capacity for the workers to respond to the variability can be identified and implemented. Examples of this include:

- If work processes are dependent upon certain tools to be available, how can the organization ensure that those tools are readily available in foreseeable conditions? What are the conditions that would cause those tools to become unavailable? How can the organization create the capacity to respond to those conditions so that the necessary tools are available?
- If workers have to deal with frustrating procedures (e.g., complicated, unrealistic, etc.) how can those procedures be changed to make them more workable? Is it possible to have the workers develop their own procedures for the task that might be better?
- If the work processes are sensitive to time pressures, how can we provide slack into the system to allow workers to achieve all necessary goals? How can we create an organizational response to stressors rather than relying solely on individual responses?

Additionally, good practices and innovations will likely be identified in the evaluation of normal work. These should be shared throughout the organization.

Conclusion

The Safety Differently model provides an alternative to many traditional safety approaches, particularly as related to the focus on the reduction of negatives as the central role of the safety profession. Instead, Safety Differently seeks to not only minimize negatives, but also to expand positives. In particular, Safety Differently defines safety as the presence of a capacity to be successful in varying conditions. As a result of this change in perspective, Safety Differently orients itself to seeing safety as an ethical responsibility from the organization to those doing the organization's risky work. The organization focuses on enabling workers to complete work tasks successful. In doing so, it sees people as a solution to enable or facilitate, rather than merely the problem to control. As discussed in this article, this is not a "silver bullet" or "flavor of the month." Rather, Safety Differently is a new way of approaching organizational safety that promises more significant alignment between safety, productivity, quality, and other organizational goals.

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