

5 Principles of High-Reliability Organizing

High-Reliability Organizing is an approach to discovering and correcting errors before they escalate into a crisis. A High-Reliability Organization (HRO) is one that is successful in avoiding disasters despite being in a field prone to accidents due to inherent hazards and a complex operating environment. Examples most famously studied by researchers Karl Weick and Kathleen Sutcliff, include nuclear power plants, air traffic control systems, and naval aircraft carriers.

When something terrible happens within an HRO, the public's initial response may be shock and anger, but an insightful observer will note how well these types of organizations maintain function and structure in the face of a brutal audit and tend to bounce back stronger.

To find out just how they do it, the researchers identified five common principles of HROs. These traits are essential for avoiding significant failure or catastrophe despite operating in a hazardous environment where lives or resources may be at stake.

Three Principles of Anticipation

Anticipating Failure

Track small failures. No error is ignored, even the very small, because small deviations from the expected result can snowball into significant impacts. It's necessary to address any level of technical, human, or process failure immediately and completely. It's also important to be fixated on how things could fail, even if they have not. Explicitly spell out and vocalize the mistakes nobody dares make.

Reluctance to Simplify

Embrace complexity. Expectations can simplify perspective and steer observers away from discomfiting evidence that foreshadows unexpected problems. With the recognition of the complexity and an openness to a greater diversity of worldviews comes a richer and more varied picture of potential consequences and solutions. When

in hindsight, reflect and learn by conducting a cause analysis to determine why things failed. Reject simple diagnoses or any explanation not empirically derived. All problems are the result of many causes, plural.

Sensitivity to Operations

Be here now. Be present and aware of what is actually happening, regardless of how work is supposed to be done based on intentions, designs, plans, or briefings. Doubt, discovery, and on-the-spot interpretations are the hallmarks of Sensitivity. No hard line is drawn between quantitative and qualitative knowledge. Evidence, observation, and awareness of the interconnectedness of all things leads to the early detection of errors.

Two Principles of Containment

Commitment to Resilience

Errors are inevitable. Quickly identify errors for correction, and at the same time, develop solutions to allow for graceful degradation of function. Develop the abilities to detect error and resources to cope with and respond quickly to change or distress. From the scars of the past, develop more elaborate response capabilities.

Deference to Expertise

Expertise, rather than authority, takes precedence. When conditions are high-risk, and circumstances are changing rapidly, expertise is essential for urgent situational assessment and response. Establish social norms that recognize the difference between an expert and expertise, the shifting locations of expertise, and value of respectful interaction. Leadership's ability to defer to expertise, delegate, and communicate by intent is a hallmark of HRO.

More information:

[Managing the Unexpected](#) by Karl Weick and Kathleen Sutcliffe, 2007, 2nd Edition.

[Organizing for higher reliability](#): lessons learned from wildland firefighters, Weick and Sutcliffe 2008, Fire Management Today, Vol 68 No. 2 pp 14-19.