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The Organizational Accident. Or not

As you may know by now, there has been a paradigmatic shift in identifying the causal factors that lead to aircraft accidents. Initially, accidents were primarily attributed to proximal factors (i.e., pilot error), while today, many other upstream, or distal, factors are being identified (i.e., latent organizational threats and errors that may lie dormant in the system for months or even years).

Systemically, it was much easier to attribute an accident to a single cause; pilot error. The train of thought was that pilots made errors solely of their own volition and that there were few, if any, organizational precursors leading to the terminal error. Thus, if the pilot were still alive, the way to ameliorate the problem was with sanctions (such as license suspension or revocation and/or job termination). For lesser infractions, remedial training was another option. Unfortunately, these "fixes" were not preventing the same type of accidents from happening again. A deeper understanding of accident causation was in order.

About 30 years ago, accident investigators began to shift their single point error paradigm to a more robust model of precursor identification (or, with credit to James Reason—the metaphorical Swiss cheese model). The "organizational accident" was born; an accident that has multiple upstream failures that may go as far back as bad decisions made in the board room years

earlier. And, in many cases, the Regulator, rather being part of the solution, can actually be part of the problem. Arguably, the most well-known accident of this type was Air Ontario Flight 1363 that crashed in Dryden, Ontario, Canada, in 1989. Although the crash was caused by pilot error (the Captain took off with ice and snow on the wings and crashed shortly after takeoff), multiple failures were identified in the system, including significant organizational errors and inadequate oversight by the Regulator (Transport Canada). Unfortunately, these organizational failures (also known as latent threats and errors) were only identified after the accident occurred. This accident was the quintessential failure of an entire organization, up to, and including, the Regulator. This wasn't just pilot error. This was an organizational accident.

Fast forward to today. Almost all accidents are caused by some kind of failures in the organization. It should be stated that this does not absolve pilots of blame; it just means that pilots may be the "trigger pullers" of accidents that have been set in motion by organizational failures years earlier. You can think of it as an extended accident chain.

Although today we have a much better understanding of how and why organizational accidents occur, they still continue to occur. Part of the problem is that the very people that are setting the latent organizational threats and errors in motion are more focused on the bottom line than safety. It's called the Production/Protection scale; too much production (income) and too little protection (safety) can lead to a loss. Upper management sometimes balances the scale disproportionately to the production side thus creating a breeding ground for latent organizational threats. Accordingly, the majority of accidents today are still attributable to unmitigated organizational factors.

What can be done? There is no magic bullet or a simple solution. One major obstacle is that an aviation organization may have a problem seeing the forest through the trees. It's a case

of lack of objectivity in realizing an organization's shortfalls. After all, latent threats lie hidden in the system and they are typically not visible until <u>after an accident occurs.</u> An organization that can identify latent threats <u>before an accident happens</u> is truly a high-reliability organization. A Safety Management System (SMS) will help, but only to the extent that upper-management buys-in and supports it. Unfortunately, many aviation organizations that claim to have a functional SMS have nothing more than a manual collecting dust on a shelf. An additional challenge is that management may still have a reactive, rather than proactive, approach to safety. I can list many more impediments to achieving a high-reliability organization here, but I think you get the point. The goal is to identify the latent organizational threats and errors before they penetrate all the holes in the Swiss cheese slices and become an accident. It can be done, but the organization needs to take the first step by standing back and seeing the forest through the trees, and that may need to be done with an objective set of eyes.

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