Why Aviation Learns From Disaster – And Most Industries Don't

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In June, a sonar drone working two thousand feet down off the coast of Puerto Rico found what was left of a Pan American Airways DC-4 called the Clipper Endeavor. It had been missing since 11 April 1952, when it lost several engines shortly after take-off and went into the Atlantic with 69 people on board. Fifty-two of them died. Many were still in their seats when the aircraft sank, unable to find life vests in the few minutes they had.

That crash is the reason every passenger on every commercial flight now sits through a safety briefing before take-off. Not a training module somebody wrote once and filed away. A permanent, universal, non-negotiable change to how the entire industry operates, traceable directly back to one investigation, seventy-odd years ago. Most industries can't point to a change that clean.

The pattern behind the wreck

Aviation didn't get here by accident, and it didn't get here through a single dramatic reform either. It got here through a structure that most other sectors simply haven't built: independent investigation of serious incidents as standard practice, findings published even when they're uncomfortable, and a deliberate separation between investigating what happened and deciding who's at fault for it. That separation is usually called a "just culture", and it matters more than the phrase suggests. If the person who was in the cockpit, the control tower or the maintenance hangar believes that telling the truth will end their career, they tell you what they think you want to hear. Aviation worked that out decades ago. Most industries are still working it out now.

The result, over time, is an accumulation of small, unglamorous changes: checklists, redundant systems, procedures rewritten after a near-miss that never made the news. None of them come from a workshop or a piece of best-practice guidance imported from elsewhere. They come from something that actually happened to someone, examined honestly, and then built into how the job is done from then on.

Why the lesson usually doesn't survive – Toft and Reynolds

Brian Toft and Simon Reynolds set out the mechanism for this rather better than I can, in Learning from Disasters, and it's worth stating plainly rather than gesturing at it. Their argument is that most organisational disasters aren't new. They're repeats. Not because nobody looked into the first one, but because the people investigating the second incident never recognised it as the same failure wearing different clothes. They call it isomorphic learning failure: the lesson gets identified, written up, even signed off in a meeting, and then it simply doesn't travel to the next situation it applies to.

It's a pattern that's easy to recognise once you know what you're looking for: the same three findings turning up, worded slightly differently, in reports two, three, sometimes five years apart, from organisations that had every intention of fixing things the first time round. Nobody involved is negligent,

and the recommendations are usually written in good faith. The reporting culture simply doesn't reach far enough to make sure the lesson outlives the meeting where everyone agreed it mattered.

There's also a habit of language worth naming here. Most organisations talk about "lessons learned" the moment a report gets signed off, when what has actually happened is that a lesson has been identified. It isn't learned until it has changed how the organisation behaves the next time round, and that gap, between identifying something and actually learning it, is exactly where most of this breaks down.

Where the pattern breaks down

Post-incident reviews are common now, across most sectors, and most are carried out in good faith. Where it usually breaks down is afterwards: recommendations get partially actioned, ownership quietly drifts, and a plan or policy gets properly tested for the first time during the next real incident rather than the one that identified the gap in the first place. Business continuity plans go untested until a genuine crisis exposes assumptions nobody had actually walked through with the people who'd be relying on them. Data-handling failures recur in organisations that could produce a policy document proving the risk was already known. None of this is a story about carelessness. It's a story about lessons identified correctly and never actually learned.

What's worth taking from it

Aviation's model isn't reproducible wholesale outside a sector with its resources and its regulator. But the underlying discipline is, and it comes down to a handful of decisions any organisation can actually make.

Separate the investigation from the disciplinary process, structurally rather than on paper: different people running it, a different meeting, a different stated purpose, so the person giving evidence isn't also the person being judged by the room.

Publish findings to an audience wider than whoever commissioned the review, even the findings that reflect badly on a decision someone senior made. A lesson that never leaves the room it was written in was never really learned.

Treat "this has happened before" as the headline finding rather than a footnote. If a lesson has genuinely been identified twice, that repetition is the more urgent problem, not a minor detail to note in passing.

Build review into the ordinary rhythm of the organisation, rather than something that only happens after a serious incident. Aviation's safety record is built on thousands of minor adjustments made in calm conditions, not solely on the handful of dramatic ones made after a tragedy.

Back to the wreck

The reason a safety briefing before a flight now feels thoughtless, almost beneath notice, is that a genuinely tragic incident got a genuinely honest investigation, and the finding was built into the system rather than filed away. That's a high standard. Most organisations will never operate anything as visible as an aircraft, and most will never have a regulator with the CAA's authority looking over their shoulder. But the discipline underneath it, investigate honestly, publish it, and make sure the lesson actually moves, is available to anyone willing to build it in deliberately rather than assume it happens on its own.

If you're reviewing how your own organisation investigates incidents, tests its plans, or embeds the lessons it's already identified, that's exactly the kind of work Cambridge Risk Solutions does. Get in touch if it would help to talk it through.

References

Toft, B. and Reynolds, S. (2005) Learning from Disasters: A Management Approach, 3rd edn. Leicester: Perpetuity Press.

BBC News (2026) 'Wreckage of Pan Am plane that shaped aviation safety found 74 years on', 22 July. Available at: bbc.co.uk/news/articles/cdrvyllxj71o