What big law can learn from NASA about building resilience

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When John Saiz joined NASA in 1985, the space shuttle was operational but still evolving. Apollo was history. The agency was flying regularly, learning in real time, and beginning to shape what would become the International Space Station.

“The shuttle was still pretty new,” Saiz recalls. “We were still quite new, learning quite a bit, and they were just starting the buildup of the space station. There was just a lot going on.”

NASA was doing what high-performing institutions do at their best. It was pushing boundaries while managing enormous technical, political, and financial constraints. Launch cadence increased. International coordination expanded. The work became more complex each year.

By the early 2000s, shuttle missions were occurring as often as every six weeks. The organization had developed a rhythm of execution that was both impressive and demanding.

Then came Columbia.

A moment that forced reflection

The loss of the shuttle in 2003 was a profound shock. For those inside the agency, it was personal. Johnson Space Center operates within a close-knit community. Astronauts were not distant figures. They were colleagues and neighbors.

But beyond the grief, the moment prompted a deeper question.

> "At that time, we had flown 70 or 80 missions," Saiz says. "Didn't we know everything there was to know about flying the shuttle? Were we blinded by our success?"

NASA responded first as an engineering institution. Debris was recovered and reconstructed. Data was analyzed exhaustively. Technical causes were identified.

But leadership also recognized something else. Technical excellence alone does not guarantee organizational awareness. Complex systems require cultural resilience as well as engineering rigor.

That insight would become one of the most important outcomes of the period.

From technical mastery to organizational awareness

NASA commissioned external reviews, interviews, and focus groups. For an agency built on analytical discipline, turning that discipline inward was significant.

What emerged was not incompetence. It was a recognition of imbalance.

"We tend to value technical prowess," Saiz says, "but not really how well we collaborate or how well we invite opinions. We valued individuals, but we didn't value the teams."

Under schedule and cost pressure, high-performing teams can become narrowly focused. The instinct to deliver can unintentionally suppress the instinct to question. Hierarchies can become more rigid. Meetings can become less porous.

Large law firms understand this dynamic well. When client deadlines compress and revenue targets tighten, the organization becomes highly efficient. The risk is that efficiency crowds out reflection.

For NASA, the lesson was not that the organization lacked talent. It was that talent needed a stronger cultural infrastructure.

Designing for openness

The changes that followed were not dramatic declarations. They were structural adjustments.

Leadership development was reimagined. Managers were trained not only to drive outcomes, but to create space for dissent and alternative viewpoints.

The broader climate was examined. Did teams feel psychologically safe raising concerns? Were calculated risks rewarded? Was collaboration genuinely valued, or merely assumed?

Processes were redesigned to reinforce the behaviors the agency wanted to see. Performance evaluations, mentoring programs, and recognition systems were aligned with collaboration and accountability.

“You want to make sure that anything that you start,” Saiz says, “is ingrained in the actual processes, because that’s what makes it last.”

For law firms navigating digital transformation, this distinction is critical. Innovation is not a department. It is a system of incentives and rituals.

One example captures the approach.

NASA formed an Inclusion and Innovation Council composed of senior leaders from both civil servants and contractor organizations. The pairing was deliberate. Inclusion was framed not as compliance, but as a driver of better problem-solving.

The council introduced a simple set of “Expected Behaviors” that were posted in meeting rooms. Teams began meetings by briefly reflecting on one behavior such as accountability or openness. What began as a structured exercise became habit.

At the same time, the physical environment shifted. Round tables replaced long hierarchical layouts. Leaders rotated seats. Collaboration spaces were placed near cafeterias and coffee stations to encourage unplanned interaction. A workshop known as the “sandbox” gave engineers room to experiment without formal project constraints.

None of these changes were revolutionary in isolation. Together, they altered how decisions were made.

Incremental shifts, repeated consistently, expanded the organization’s capacity to see itself clearly.

Innovation as organizational capacity

By the time Saiz left NASA, the shuttle program had completed its final missions without further catastrophe. The International Space Station had been assembled and continues to operate. New programs, including Gateway, were underway.

“At the time that I left the agency,” Saiz says, “the answer was definitely yes.”

The key point is not that adversity created innovation. It is that the organization used adversity to build deeper resilience.

For large law firms, the analogy is constructive rather than cautionary.

In most industries, change does not arrive as visibly as a shuttle accident. It appears gradually. New competitors emerge. Clients demand new forms of transparency. Technology shifts expectations.

“You don’t realize,” Saiz says. “You just sort of slowly lose market share. Change is happening whether you embrace it or not.”

For Saiz, the organizations best positioned to adapt are those that build that capacity before change becomes urgent.

“It’s important to innovate,” he says, “as a matter of survival.”

Technology as augmentation, not replacement

Saiz often draws parallels between space exploration and emerging technologies in legal.

Rovers on Mars operate autonomously, processing terrain and data at scale. But they do so within guardrails. Human oversight and judgment remain central.

“You need AI to look through huge amounts of data and narrow the data sets,” Saiz says, “but you don’t get rid of judgment. You still need ethics. Humans make the decisions.”

For large law, the opportunity is not to replace expertise with AI, but to design systems where technology augments human judgment while preserving professional standards.

The deeper lesson from NASA is not about rockets. It is about alignment.

High-performing organizations become more innovative when they are willing to examine how decisions are made, how voices are heard, and how incentives are structured.

Innovation, in that sense, is not a breakthrough event. It is the outcome of sustained cultural design.

Watch the full conversation here.

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