INNOVATION RESEARCH INTERCHANGE

Accelerating Value Creation

Resilience by Design: Building a Culture That Powers Innovation Through Risk

SUMMARY

Organizational resilience is a prerequisite for sustained innovation, and it hinges on the ability to take informed, calculated risks. Organizations must move beyond risk avoidance and intentionally build a culture that embraces experimentation, tolerates intelligent failure and empowers teams to learn and pivot quickly. Drawing on *Research-Technology Management* articles and examples from IRI member companies DuPont, Greene Tweed and James Hardie, this Innovation Research Interchange report offers concrete strategies for shifting mindsets, embedding risk awareness into daily decision-making and structuring teams and processes to support bold yet informed exploration. Whether navigating uncertain markets, accelerating sustainable product development or experimenting with new technologies, the most resilient organizations are those that treat risk not as something to be eliminated but as crucial to the innovation process.

Key Takeaways

- ***Redefining Failure as a Learning Opportunity:*** Organizations should shift their perspective on failure by viewing it not as a setback but as a valuable source of learning.
- ***Empowering Teams Structurally and Psychologically:*** Innovation thrives when R&D teams are both structurally empowered with autonomy and resources and psychologically empowered by a sense of purpose..
- ***Identifying and Acting on Pivot Points:*** Successful innovation requires the ability to recognize when a project needs to change direction by testing assumptions, validating hypotheses and reassessing value propositions.

- ***Leadership's Role in Cultivating Risk Culture:*** Leaders must model behaviors that support a healthy risk culture, such as transparency, accountability and openness to challenge assumptions
- ***Implementing Risk-Intelligent Practices***: To cultivate a risk-intelligent culture, organizations must integrate risk management into their strategic objectives and capabilities, ensure robust governance structures and foster transparent communication regarding risks.

Introduction

Drawing on *Research-Technology Management* journal articles, IRI research and examples from the finalists for the IRI's Innovation Excellence Award for Innovative Culture, this IRI report offers concrete strategies for shifting mindsets, embedding risk awareness into daily decision-making and structuring teams and processes to support a true innovation culture. A culture that encourages healthy risk-taking is essential not only for innovation but also for long-term adaptability and growth. However, few companies have built the cultural infrastructure to support such a mindset. Failure still carries stigma, and teams often hesitate to take bold action. While phrases like "fail fast" and "fail forward" are common, few organizations have the systems and mindset in place to support them. By combining psychological safety, structural support and encouragement from leadership, companies can develop the capacity to distinguish between epic and brilliant failures—those that fall short but yield valuable insights—and navigate uncertainty with greater agility and purpose.

Risk Culture and Safety

Risk culture reflects the collective mindset an organization brings to uncertainty and how people perceive, discuss and act on risk. It encompasses the shared assumptions, habits and norms that guide decisions at every level, from long-term strategy to project execution (The Institute of Risk Management, n.d.). A strong risk culture embraces uncertainty as a space for learning and growth and is marked by open communication, accountability and a willingness to challenge assumptions. Teams are empowered to take calculated risks and experiment openly, and leaders instill a sense of psychological safety, where failure is part of the process, not the end of a career. A weak risk culture can manifest as excessive caution, siloed decision-making or unchecked risk-taking (The Institute of Risk Management, n.d.).

Novartis Professor of Leadership and Management at Harvard Business School Amy Edmondson indicates that a strong risk culture is one where employees feel safe speaking up, asking questions and admitting mistakes without fear of blame or retaliation (Edmondson, 2018). In such environments, candor is expected and valued, and leaders actively seek input with humility and openness while recognizing that uncertainty and interdependence define most modern work. Learning from failure is normalized, and trust is built through day-to-day collaboration. A feedback loop is created in which transparency and experimentation drive performance. However, psychological safety alone is not sufficient to drive risk culture. Employees also need motivation to reach high performance, which means tapping into drivers like purpose, passion and meaningful feedback. Dr. Edmondson illustrates this balance in **Figure 1** below:

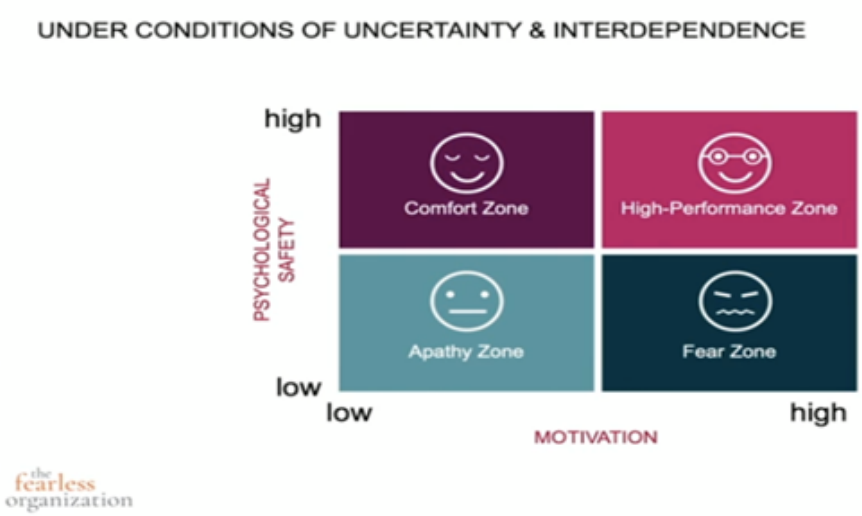

Figure 1 - Edmondson, Amy C. The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth. Hoboken, NJ: John Wiley & Sons, 2018.

For those working in innovation, curiosity and the desire to experiment are strong motivators. Combining this with a sense of psychological safety is a powerful tool for driving a culture that is comfortable with risk.

Failure as a Strategic Approach to Learning

Brilliant failures are not setbacks to be avoided but essential drivers of innovation, resilience and long-term growth (Zaharee et al., 2021). Failures are considered brilliant when a project falls short of original goals but still yields valuable insights. Teams that navigate such failures effectively tend to excel at cross-functional communication, early detection of red flags and swift, informed decision-making. These capabilities are reinforced by behaviors such as asking probing questions, setting reassessment thresholds and maintaining open feedback loops. In organizations with strong risk cultures, brilliant failures are viewed as opportunities—not endpoints. Leaders help reduce fear of blame and encourage responsible risk-taking by promoting transparency, storytelling around failure and a culture of psychological safety. Organizations that embrace this mindset waste fewer resources, adapt more quickly and accelerate innovation, ultimately gaining a significant competitive edge (Zaharee et al., 2021).

Research findings revealed seven key drivers that are essential for recognizing and leveraging brilliant failures, as summarized in **Figure 2** below. By reframing failure as learning, promoting responsible risk-taking, and rewarding insight, organizations not only reduce fear of failure but also reinforce the autonomy, initiative, and safety essential to teams that are comfortable with risk.

Driver	Key Focus	What It Means
Reframing Failure as Learning	Shift the Question	Ask "What did we learn?" instead of "Why did we fail?" to spotlight growth, not blame.
Overcome Failure Stigma	Create Safety	Foster an environment where admitting missteps and sharing challenges is encouraged, not punished.
Incentivize Learning	Reward Insight	Recognize progress, curiosity, and learning—not just final outcomes or wins.
Promote Responsible Risk Taking	Experiment Boldly	Use small tests and rapid feedback to explore big ideas with manageable risk.
Identify Pivot Points	Know When to Shift	Build the habit of reassessing and redirecting before overcommitting to failing paths.
Prevent Epic Failure	Govern Proactively	Use oversight and foresight to catch derailments early and intervene before damage escalates.
Detect Early Warning Signs	Stay Alert	Monitor for subtle cues—like misalignment or sunk-cost thinking—that flag deeper issues.

Figure 2 - Adapted from Zaharee et al., 2021.

Member Example 1: DuPont, Normalizing Failure to Empower Innovation

At DuPont, embracing risk is foundational to driving transformational innovation. One standout initiative is the annual Dead Projects Day, launched in 2019, which celebrates discontinued or pivoted projects as opportunities for learning (DuPont, 2025). Through storytelling and community dialogue, the annual event reduces stigma around failure and reinforces smart risk-taking as essential to growth. Storytellers are encouraged to share the human elements of how it can be difficult to stop working on our innovation ideas, as well as share best practices for navigating the uncertainty at the fuzzy front end of innovation. A costume contest and seasonal treats help attendees get in the spirit of the event and create a safe space for sharing vulnerability. Supporting this mindset is the Emerging Innovation Network, a grassroots community fostering experimentation and cross-functional knowledge-sharing through workshops and agile practices (DuPont, 2025). With strong leadership sponsorship, DuPont creates the psychological safety and ecosystem needed to pursue bold ideas, adapt quickly and deliver customer value.

Empowering R&D Teams

One of the most critical lessons for organizations aiming to drive innovation through their R&D teams is the need to cultivate both structural and psychological empowerment (Bailey et al., 2025). Structural empowerment refers to organizational systems that grant autonomy, resources and decision-making authority. Psychological empowerment is an individual's belief in their own agency, competence and ability to make an impact (Bailey et al., 2025).

It is imperative for individuals to feel confident taking initiative, speaking up and experimenting. It is not enough to provide resources and decision-making authority. When teams experience both types of empowerment, they are more willing to embrace ambiguity, pursue bold ideas and treat setbacks as opportunities for growth rather than as threats (Bailey et al., 2025). Innovation thrives in environments where team members feel safe to take calculated risks, navigate uncertainty and explore unconventional ideas as these behaviors are foundational to a strong risk culture.

"Innovation thrives in environments where team members feel safe to take calculated risks, navigate uncertainty, and explore unconventional ideas."

Leadership plays a decisive role in enabling these conditions and must intentionally foster trust and model openness to risk while ensuring that team goals are aligned tightly with broader strategic priorities. Just as important, innovation accelerates when organizational structures allow for fluidity—breaking down silos and encouraging collaboration across functions and disciplines. When psychological safety and organizational design work in tandem, R&D teams become more confident, resilient and capable of sustaining innovation over the long term (Bailey et al., 2025).

Empowered teams are better equipped to raise concerns early, learn from failure and leverage internal and external expertise beyond their core group. Organizations can strengthen these dynamics by creating systems that support outreach to subject-matter experts and by encouraging team members to pursue new opportunities that expand their networks, influence and knowledge (Bailey et al., 2025). Responsible risk-taking becomes not only possible but expected when teams are trusted with autonomy, supported with meaningful connections and encouraged to lead from wherever they sit. **Figure 3** summarizes 12 characteristics that reinforce empowerment and build risk comfort within R&D teams—characteristics that any organization can cultivate to unlock innovation at scale.

12 Actions to Take to Grant Empowerment

1. Encourage fluid teams: Give project teams permission to access internal and external resources that possess knowledge, skills and abilities that are outside the core team's expertise.
2. Create a structure that makes subject-matter experts available to R&D colleagues outside the core project team.
3. Enable core team members to experience new opportunities, build up their individual networks and spheres of influence and share knowledge.
4. Communicate clearly to team members that outreach is expected: The goal is to increase their confidence in their ability to accomplish project objectives that may be slightly beyond their expertise.

5. Encourage team members to try new approaches for a project, to take initiative and to assume responsibility. Remind them that they will have support to access resources outside their direct control.
6. Invest in training and mentoring to develop project leaders' leadership skills. Enabling access to fluid resources also requires that project leaders be comfortable managing matrixed teams, so increased training is necessary.
7. Ensure training for project leaders covers granting autonomy and empowerment, delegating work, holding people accountable, engaging team members, managing and leading ambiguity, and giving credit publicly.
8. Recruit and select carefully using screening criteria that examines an applicant's willingness to take risks, experiment and shoulder responsibility for decision-making. Also consider person/project fit criteria when selecting applicants: Match empowerment readiness with tasks that require varying degrees of initiative vs. compliance.
9. Recognize that not all staff want the responsibility that comes with empowerment. Consider what initiatives best suit team members who do not want complete autonomy and find ways to use these team members' skills productively.
10. Support flexible approaches to project management, even when using the stage-gate process.
11. Let R&D team members know explicitly that they are empowered. Outline clearly expectations for their full participation in advancing the R&D organization's strategic goals.
12. Maintain team members' motivation by offering them the chance to work simultaneously or in rotation on other projects that might be in their infancy, more ambiguous or blue sky.

Figure 3 - 12 Actions to Take to Grant Empowerment (Bailey et al., 2025)

Member Example 2: Greene Tweed, Empowered to Take Risks

At Greene Tweed, psychological safety begins with a core principle: encouraging open, honest communication and active listening. Employees are supported in voicing new ideas, risk-taking is encouraged, and failure is not seen as a setback. In fact, failure is seen as a learning opportunity particularly within foundational research projects. The culture at Greene Tweed is backed by leadership support, and employees are given time, resources and tools to pursue ideas. The organization reinforces this mindset by investing in complex technical challenges and enabling cross-functional teams to test boundaries in strategic areas like materials science and hydrogen energy. This empowerment to take risks has resulted in new technology creation with embedded sensors for real-time monitoring, entry into the hydrogen market, faster product development and manufacturing breakthroughs in thermoplastics and composites.

The Importance of Leadership in Encouraging Risk

While leadership behaviors have a significant influence on innovation outcomes, the impact is not universal. Outcomes are shaped by the cultural environment in which they are applied (Dodge, Witzeman, et al., 2017). A team of IRI members used data from the Center for Creative Leadership's KEYS survey to analyze how leadership behaviors influence workplace innovation. Drawing on more than 113,000 responses, they used regression models to identify which leadership traits most strongly drive innovation, both overall and within different organizational cultures defined by control, risk aversion, support and openness (Dodge, Witzeman, et al., 2017).

Across a wide range of organizational contexts, three leadership behaviors consistently stand out as drivers of innovation: providing organizational encouragement, assigning challenging work and fostering team-based support. However, the effectiveness of each behavior depends on how well it aligns with the organization's cultural profile. For example, encouragement tends to have the greatest impact in environments with low control and high support, while assigning challenging work is especially powerful in more independent or low-support settings (Dodge, Witzeman, et al., 2017). This means that successful innovation leadership is not about universally applying best practices. Rather, it is about tailoring those behaviors to fit the unique conditions of the organization.

This insight has profound implications for leaders trying to stimulate creativity and drive innovation. A one-size-fits-all approach will not work. Leaders must act as cultural diagnosticians and assess whether their environment favors autonomy or oversight, experimentation or structure. Simply calling for “more freedom” or “more recognition” will not spark innovation unless those messages are credible within the existing cultural context (Dodge, Witzeman, et al., 2017). When leadership behavior is misaligned with organizational norms, it can backfire—causing confusion, disengagement or even mistrust among employees. To succeed, leaders must deliberately calibrate their behaviors based on a deep understanding of how cultural variables like control, support and risk tolerance shape the receptivity of team.

“Innovation leadership isn’t one-size-fits-all—it must align with organizational culture.”

Member Example 3: James Hardie, Bringing It All Together

At James Hardie, leadership plays a central role in fostering a culture where risk-taking is not only accepted—it’s expected to be a necessary part of innovation. This begins with the company’s purpose to “Building a Better Future for AllTM”—supporting executive commitment to building a psychologically safe environment rooted in two core values: “Collaborate for Greatness” and “Be Bold and Progressive.” These values are more than statements; they are demonstrated consistently by leaders who reinforce that learning from failure is just as important as celebrating success. Leadership empowers employees at all levels to take initiative.

Senior leaders actively shape a culture where ideas are de-risked through structure and not stifled by fear. Based on the belief that an innovative culture results in solutions that directly benefit its customers, the organization’s governance model consists of a cross-functional Brand and Innovation Steering Committee made up of senior executives that ensures a healthy balance between incremental gains and bold, long-term bets. They oversee a tiered stage- gate process designed to manage risk intelligently—not eliminate it—allowing teams to progress through new product development with confidence. In parallel, there is a separate gate framework for long-horizon technologies that enables progressive investment in riskier, early-stage ideas without premature commercial pressure. Programs like their “THINK Awards” give individuals time and resources to explore “blue sky” ideas aligned with the business.

Furthermore, the company recently introduced global R&D innovation awards, featuring categories such as “Dare to Try” that celebrate experimentation even if they did not result in immediate success. Leadership also strongly supports grassroots-led efforts like the Innovation Forum, which hosts annual “Innovation Days” reflecting on accomplishments and learnings across all three regional innovation centers. The IF also runs the “HardieSpace” open challenge platform to post technical challenges internally to leverage the collective intelligence of the global R&D community to solve problems. By doing so, senior leadership seeks to provide space for experimentation and problem-solving, while remaining hands-off enough to let creativity flourish.

Conclusions: Designing for Resilience and Risk-Ready Innovation

While innovation is inherently uncertain, organizations that intentionally cultivate a strong risk culture are best positioned to turn uncertainty into opportunity. As this report has shown, resilience is not a byproduct of avoiding failure but rather built through structures, mindsets and behaviors. Insights from *Research-Technology Management* articles and IRI member companies DuPont, Greene Tweed and James Hardie demonstrate that risk culture is not a single initiative, but a comprehensive approach embedded in leadership, team empowerment, decision-making processes and organizational norms. The most resilient organizations are those that recognize the value of experimentation, act quickly on lessons learned and align innovation efforts with broader strategic goals. Organizations should work toward creating an environment where people have psychological safety to challenge assumptions, the structural support to explore new ideas and the shared purpose to turn setbacks into breakthroughs. As markets evolve and technologies rapidly advance, organizations that embrace this mindset will not just withstand uncertainty—they will drive and shape whatever comes next.

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