RESEARCH INSIGHTS

Threading the Needle

Ten Practices of Organizations that Navigate Polycrisis While Advancing Socio-ecological Wellbeing

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Executive Summary

Most organizations operate under the assumption that business success requires painful trade-offs—you cannot simultaneously achieve strong financial performance while effectively responding to interconnected crises and advancing social and environmental goals. If you're a leader who has felt forced to choose between financial performance and doing good for society, this research offers a different path forward.

This exploratory study examines six organizations spanning utilities, aviation, manufacturing, pharmaceuticals, food, and electronics. During hurricanes, cyberattacks, and pandemics, these companies delivered measurable results across business, environmental, and social domains without sacrificing performance.

The research identifies ten specific practices that enable integrated approaches, providing leaders with evidence-based alternatives to conventional either-or thinking. For organizations facing the convergence of multiple crises—what researchers call "polycrisis"—these findings demonstrate that threading the needle among competing demands is not only possible but can drive superior outcomes.

The Challenge

As a leader, you're navigating unprecedented challenges in a polycrisis[1] environment– the convergence of multiple, interconnected crises spanning economic, social, environmental, governmental, health, energy, food, regulatory, and technological domains. Climate change, pandemics, social inequality, and supply chain disruptions do not occur in isolation; they compound and amplify each other, creating complex operating environments that too often defy traditional management approaches.[2]

Stakeholders increasingly expect organizations to address social and environmental concerns during polycrisis while maintaining economic viability.[3,4] Rather than viewing this as an impossible burden, forward-thinking organizations increasingly leverage these circumstances both to advance broader socio-ecological wellbeing[5] and as catalysts for innovation and positive change.[6,7,8]

Threading the Needle Concept

In sewing, threading a needle requires guiding thread through a tiny opening—a task that seems impossible until you understand the technique. In business, the "needle's eye" represents the narrow space between conflicting pressures: stakeholder demands for financial returns on one side, societal expectations for environmental and social responsibility on the other, and polycrisis constraints squeezing from all directions. Most leaders see this opening as too small to navigate, believing they must choose one priority over another.

Organizations that successfully thread the needle during polycrisis demonstrate dual capabilities: they effectively navigate the broader polycrisis environment while simultaneously converting individual crisis events into opportunities. This requires both systemic capabilities for managing interconnected challenges and tactical skills for capitalizing on specific disruptions (see Figure 1).

For leaders, this means not choosing between business success and positive impact—both can be achieved simultaneously. While some scholars argue that competitive market pressures provide firms with legitimate excuses for prioritizing survival over stakeholder obligations,[9] by threading the needle organizations achieve multiple seemingly contradictory goals.

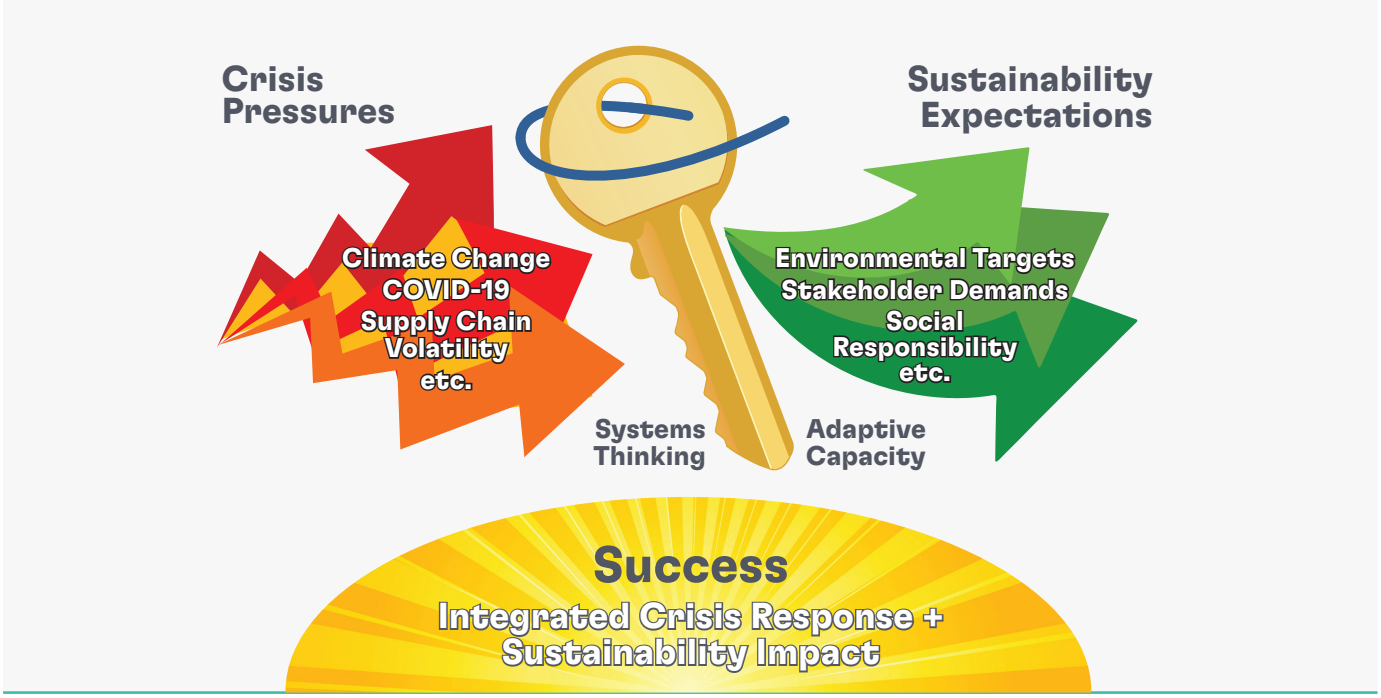

FIGURE 1

Study Approach

This research addresses a critical gap in organizational literature. While existing studies examine how organizations respond to specific crises[10] or contribute to sustainability under stable conditions,[11] less attention has been paid to how organizations navigate polycrisis while advancing socio-ecological well-being.

For this study, leadership development professionals nominated organizations known for integrating business success with social and environmental impact during challenging periods. Six organizations were selected: AstraZeneca, Entergy, Mars, Norsk Hydro ASA, Singapore Airlines, and Sony Corporation, representing diverse sectors and geographic contexts (see Appendix A for details about the study methodology).

Publicly available information from 2024-2025, including independent sources (43%), company sources (38%), and partnership/collaborative sources (19%) were analyzed. Organizations were evaluated across eight key dimensions, including innovation in crisis management, sustainability practices, collaboration capabilities, and ethical frameworks. The assessment framework draws from established organizational performance literature across environmental, social, economic, and adaptive domains, applying these integrated approaches to understand how organizations navigate a polycrisis.

All organizations demonstrated strong threading the needle capabilities, with comprehensive performance across business, environmental, and social domains (see Appendices B-C for assessment results and company profiles). From this analysis, ten evidence-based practices for threading the needle were identified.

Methodological Note:

To date, no research examines how organizations promote environmental and social welfare while innovating during a polycrisis. However, a few studies analyze organizational responses to individual crises and aspects of socio-ecological well-being. While polycrisis is a unique phenomenon, evidence of broader capabilities was found in these studies. These capabilities include recognizing crisis innovations, using structured approaches to complex problem solving, and creating fundamental innovations that transform industry standards, which are expected to transfer to polycrisis contexts.[8]

Evidence: Threading the Needle Delivers Results

Results of this study show how organizations with strong crisis conversion capabilities thrive during polycrisis environments by achieving simultaneous effective performance across business, environmental, and social domains.

AstraZeneca responded to the COVID-19 pandemic alongside pharmaceutical sustainability pressures and environmental restoration requirements, reducing emissions by 77.5% since 2015 while reaching 90.4 million people through health access programs including screening, treatment access, and prevention initiatives. This pharmaceutical company demonstrates that environmental stewardship and global health impact can advance together during intersecting health, environmental, and regulatory challenges.

Entergy converted hurricane disasters into $137 million in resilience infrastructure investments, with progress toward approximately $400 million of their more than $2 billion in regulator-approved investments, while generating 122,000 volunteer hours (valued at $4 million) plus $43.8 million in environmental restoration, including the restoration of 16,000-acre wetland complexes. This utility company demonstrated how crisis events become opportunities for systematic, resilient improvements with measurable environmental and social benefits.

Mars operated through climate change impacts, including a cocoa crisis with 400% price increases, deforestation challenges, human rights concerns, and COVID-19 supply chain disruptions. The company grew by 60% while reducing emissions by 8% through a $1 billion strategic investment and engaged 140,000 associates in coral reef restoration and community programs across Indonesia, South Africa, and London. This food company demonstrated how business growth can drive environmental and social progress simultaneously during a polycrisis.

Norsk Hydro faced a March 2019 LockerGoga ransomware attack affecting over 35,000 employees across 40 countries, alongside Brexit uncertainty, the US-China trade war, and a global economic slowdown. This transformed the $71 million cyberattack into an opportunity for crisis communication leadership, while the company achieved environmental performance five times better than the industry average and invested NOK 880 million in Brazilian community development plus NOK 30 million in biodiversity research with universities. The aluminum company exemplified comprehensive stakeholder value creation during complex polycrisis conditions.

Singapore Airlines managed multiple crises including SARS (71% capacity reduction), financial crisis, and COVID-19 (98.6% passenger decline), achieving 30% efficiency gains during fleet modernization while maintaining sustainability commitments backed by a $50 million government partnership. This airline demonstrated that operational efficiency and environmental stewardship can advance in tandem, even during industry-threatening disruptions.

Sony grew sales by 13% during the pandemic while launching a $100 million Global Relief Fund spanning medical, education, and creative sectors. This electronics company demonstrated how business growth and social impact can accelerate simultaneously during a global polycrisis.

These six organizations show that threading the needle delivers exceptional results. But what enables such positive performance? Analysis uncovers ten practices these organizations have in common (See Figure 2):

1. **Making Strategic Investments** - represents a pattern of systematically allocating financial resources to initiatives that demonstrate the potential to produce measurable and simultaneous results across business performance, environmental impact, and social benefit. Cross-case analysis shows that these investments focused on areas such as zero-carbon strategies, infrastructure resilience, or crisis response capabilities, where large-scale commitment results in tangible outcomes in multiple areas. Review of organizational records indicates a pattern where significant corporate investments lead to both immediate operational gains and long-

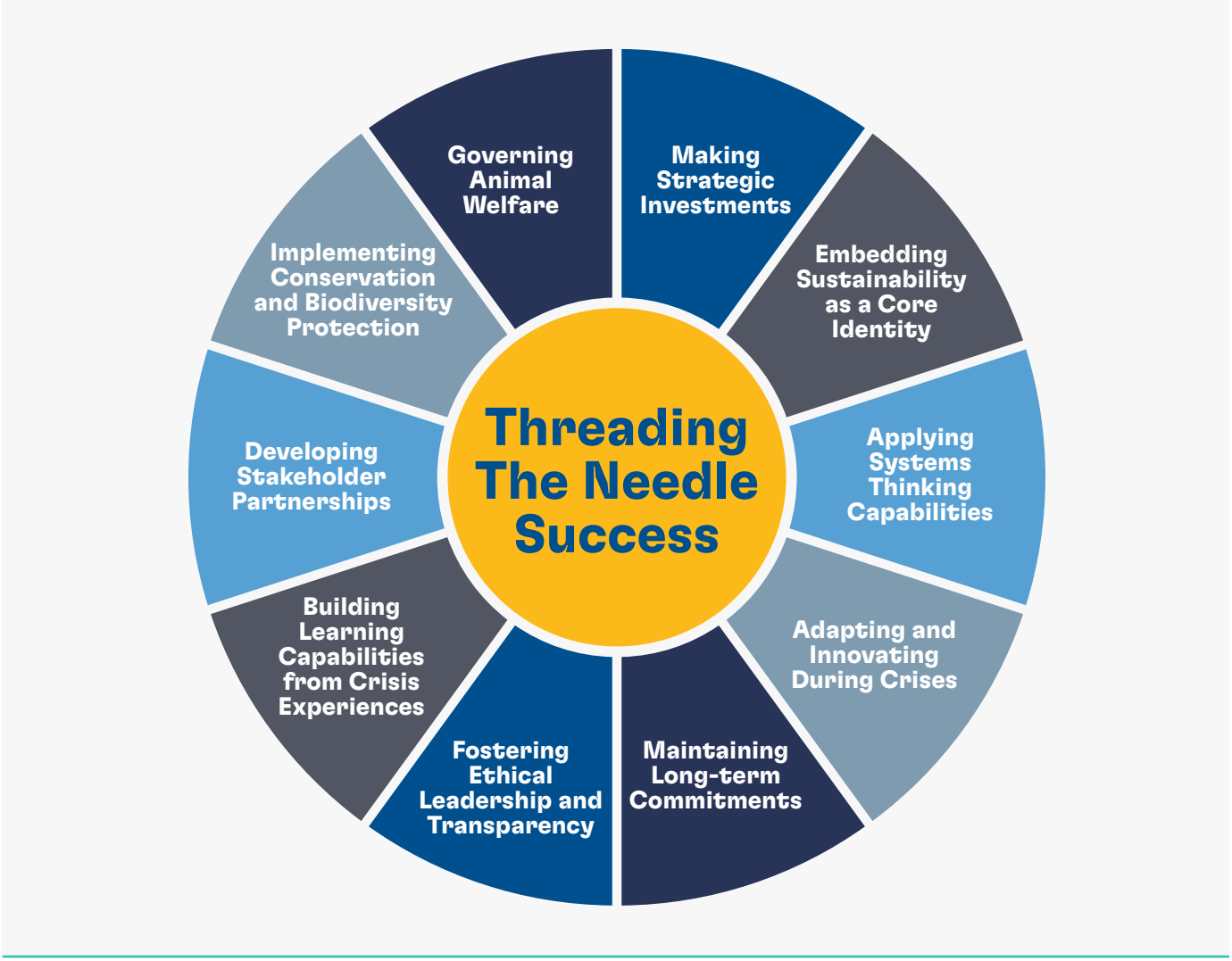

FIGURE 2

term competitive advantages. Examples:

- **AstraZeneca:**
  - Committed $1bn to Zero Carbon strategy, achieving 77.5% emissions reduction + 90.4M people reached
- **Entergy:**
  - Invested $137M in resilience, achieving $153.52M economic impact + federal funding leverage
- **Mars:**
  - Invested $1B in climate strategy, achieving 60% business growth + 8% emissions reduction
- **Norsk Hydro:**
  - Committed $71M crisis response investment, achieving #2/221 Sustainalytics ranking + environmental performance 5x better than industry average

What This Practice Reveals: Strategic investments appear to act as force multipliers when designed to serve interconnected objectives. Instead of needing separate budgets for business growth, environmental goals, and social impact, the organizations examined show that a single investment can advance all three domains. This integration shifts capital allocation from a zero-sum game into a value-creation process where each dollar delivers multiple benefits across stakeholder priorities. In polycrisis environments with heightened resource constraints, this combined investment approach helps organizations tackle multiple issues simultaneously instead of focusing on only one crisis.

2. Embedding Sustainability as a Core Identity – encompasses establishing sustainability as a fundamental organizational principle that guides decision-making, shapes cultural values, and influences strategic execution instead of being a separate department or compliance requirement. These data show that these organizations created cultural practices where sustainability considerations were integrated into business operations and where environmental stewardship became the "backbone of workplace culture" and "foundation of management." Examples:

- **Entergy:**
  - Made environmental stewardship "integral part of who we are" rather than a separate program.
  - Required every decision to "create long-term, sustainable value for all stakeholders."
  - Developed 150+ Grassroots Sustainability Champions.
  - Uses STAIR values—Safety, Teamwork, Always Learning, Integrity, Respect—as "backbone of workplace culture"
- **Sony:**
  - Established sustainability as "foundation of management" with three core areas: Environment, Accessibility, and Diversity, Equity & Inclusion.
  - Engaged 700+ employees in Earth Day participation globally.
  - Recognized that delivering Kando (emotional engagement) requires "healthy society and global environment"
- **Singapore Airlines:**
  - Applied previous crisis experience from SARS to achieve superior COVID-19 response with continued sustainability advancement.
  - Maintained service excellence culture while adapting to environmental challenges
- **Norsk Hydro:**
  - Integrated sustainability as core to organizational identity through AI-driven workforce planning that aligns skills development with green aluminum transition goals.
  - Made sustainability central to workforce transformation, ensuring ESG objectives shape employee development and career pathways rather than treating environmental goals as separate from talent strategy

What This Practice Reveals: When sustainability becomes part of organizational identity rather than just a response to external compliance, this practice removes the internal conflict between profit and purpose. Employees look for solutions that advance business goals with environmental responsibility at the same time because these objectives are no longer at odds. This cultural integration creates organizational coherence where every decision supports rather than compromises threading the needle performance. During polycrisis, this unified identity helps organizations stay committed to sustainability even under pressure, maintaining stakeholder trust when others may fall back to short-term survival tactics.

3. Applying Systems Thinking Capabilities

– involves implementing planning processes that evaluate interconnections across operations, from resource inputs to end-of-life management. The research shows that these organizations used integrated approaches, considering multiple alternatives at the same time through strategies that optimized entire operational sequences and linked different business functions. These companies created solutions that understood how different organizational components could work together more effectively. Examples:

- **Entergy:**
  - Used their Resource Planning process to evaluate supply-side and demand-side alternatives while considering environmental, social, governance, and economic objectives together for optimal resource portfolio decisions
- **Norsk Hydro:**
  - Demonstrated circular economy approach with value chain integration from mining to recycling.
  - Achieved 75% cost savings through holistic energy management that recognizes aluminum industry interconnections

- **Singapore Airlines:**
  - Implemented end-to-end value chain thinking from aircraft manufacturing to waste management.
  - Used farm-to-plane fuel strategy and solar panels providing 18% of electricity demand through integrated resource approach
- **Sony:**
  - Recognized that Kando (emotion) mission requires "healthy society and global environment," demonstrating understanding of business-society-environment dependencies.
  - Integrated SORPLAS (Sony's recycled plastic materials) recycled materials and product power reduction across business units as interconnected sustainability approach

What This Practice Reveals: Systems thinking eliminates false trade-offs by showing how business, environmental, and social objectives are deeply interconnected rather than competing. When organizations recognize these linkages, they create solutions that harness synergies—where improving one area boosts others. This holistic approach turns complex challenges from either-or choices into integrated opportunities for concurrent value creation. In polycrisis environments where multiple challenges interact unpredictably, systems thinking becomes essential for navigating interconnected disruptions while keeping stakeholder commitment and value across all areas.

4. Adapting and Innovating During Crises

– illustrates that building rapid response capabilities allows organizations to gain strategic value through transparent communication, infrastructure upgrades, or business model innovations. Patterns in these data reveal that the organizations developed the ability to adapt during disruptions—turning hurricanes into resilience investments, cyberattacks into transparency leadership, and pandemics into business growth opportunities while maintaining social impact commitments. Examples:

- **Entergy:**
  - Converted hurricane challenges into resilience infrastructure, earning 50 industry awards and $54M federal funding
- **Norsk Hydro:**
  - Converted cyberattack crisis into transparency practices through open communication that became industry best practice, ranking #2 out of 221 companies in their industry for sustainability performance
- **Sony:**
  - Transformed pandemic challenges into business growth through gaming/streaming expansion while advancing social impact

What This Practice Reveals: Crisis conversion requires organizational agility to recognize that while disruptions create genuine hardship and challenges, they can also reveal previously hidden market gaps, unmet stakeholder needs, or infrastructure vulnerabilities. Organizations that can stabilize and address immediate threats may find opportunities to innovate and create value that serves broader stakeholder interests. During polycrisis—when multiple disruptions occur simultaneously—this capability becomes particularly valuable, though it requires careful balance between addressing urgent needs and identifying constructive pathways forward.

5. Maintaining Long-term Commitments

– involves setting performance targets and investment commitments that go beyond short-term cycles. Analysis shows that the organizations designed programs demonstrating consistent progress over time—including multi-year improvement initiatives, sustained infrastructure investments, and consecutive periods of recognized performance. The companies studied established commitment structures that endured through leadership challenges and market volatility, appropriately scaled to the organizational timeline capacity. Examples:

- **AstraZeneca:**
  - Achieved 77.5% emissions reduction spanning nearly a decade since 2015 while simultaneously reaching 90.4 million people through health programs
- **Entergy:**
  - Maintained infrastructure resilience investments of $137M, progressing to ~$400M toward more than $2B in approved investments

over multiple hurricane seasons, demonstrating sustained commitment to grid modernization

- **Norsk Hydro:**
  - Sustained environmental performance 5x better than industry average while maintaining NOK 880M+ community development investments
- **Sony:**
  - Implemented "Road to Zero" global environmental plan spanning 2010-2050, demonstrating 40-year commitment to achieving zero environmental footprint

What This Practice Reveals: Long-term commitment enables compound benefits where early investments in one area generate returns that support growth in others, forming virtuous cycles that short-term thinking cannot achieve. Consistent performance across multiple areas builds stakeholder trust, operational efficiency, and market strength—each bolstering the others over time. In situations of polycrisis, where immediate pressures grow, organizations with long-term commitments stick to their strategy, while others fluctuate between crisis responses, gaining a competitive edge through steadiness.

6. Fostering Ethical Leadership and Transparency

– involves establishing governance structures with clear accountability for environmental, social, and governance performance at the appropriate organizational level. These data show that these organizations implemented communication practices that focused on substance rather than marketing claims and offered comprehensive reporting proportional to organizational size. These organizations built governance practices that fostered stakeholder trust through consistent ethical practices and transparency. Examples:

- **AstraZeneca:**
  - Established board-level sustainability governance with CEO accountability for ESG performance and comprehensive public reporting
- **Mars:**
  - Implemented "action over ads" anti-greenwashing philosophy with explicit focus on authentic sustainability communication
- **Sony:**
  - Achieved Ethisphere "World's Most Ethical Companies" recognition for 4 consecutive years (1 of only 136 companies globally across 22 countries)

What This Practice Reveals: Organizations that achieved multiple positive outcomes implemented governance structures and communication strategies that emphasized transparency and ethical practices. External validation confirmed that ethical leadership structures are essential for high performance. During a polycrisis, when information uncertainty increases, organizations with established transparency practices seem to maintain stakeholder confidence, while others may face credibility challenges that worsen their operational difficulties.

7. Building Learning Capabilities from Crisis Experiences

– involves creating systematic processes to capture knowledge from crisis events and turn lessons learned into lasting organizational improvements. Records show that these organizations turned crisis response into competitive advantages by hiring specialized staff, developing crisis response protocols, and obtaining funding for innovative solutions based on crisis learning. Analysis reveals that these organizations designed learning systems that used crisis insights to improve both emergency response and everyday operations. Examples:

- **Entergy:**
  - Built learning capabilities from Hurricane Katrina, expanding storm management staff 10x and developing protocols that generated 50 EEI Emergency Response Awards and became industry best practices, while securing $54M in federal funding for innovative grid solutions
- **Singapore Airlines:**
  - Applied previous crisis experience (SARS crisis learning) to achieve superior COVID-19 response with sustainability advancement

What This Practice Reveals: Systematic learning polycrisis turns disruptions from one-time costs into lasting organizational capabilities. Organizations that gather and formalize lessons from individual crises build

institutional knowledge that improves both responses to polycrisis and everyday operations, creating competitive advantages that last long after the original disruptions are over. In polycrisis conditions, this accumulated learning helps organizations spot patterns across linked challenges and respond with proven approaches instead of starting from scratch with each new set of disruptions.

8. Developing Stakeholder Partnerships

– illustrates establishing collaboration programs with external entities such as government organizations, academic institutions, or community groups that generate measurable outcomes within their operational scope. This study shows that organizations developed partnership initiatives that yielded quantifiable results while gaining external support and recognition. The findings suggest that these organizations prioritized partnerships that leveraged the complementary strengths of different entities to achieve mutual benefits. Examples:

- **Mars:**
  - Created multi-country partnership programs through Ambassador initiatives spanning Indonesia, South Africa, and London
- **Singapore Airlines:**
  - Built strategic partnerships that secured $50M government backing through collaborative sustainability initiatives and established UN Global Compact leadership status
- **AstraZeneca:**
  - Developed health system partnerships delivering 54.5 million screenings across 9 countries while maintaining market position, achieving independent verification of science-based climate targets and ranking 5th globally for medicine access

What This Practice Reveals: Strategic partnerships expand an organization's capabilities beyond internal resources, enhancing threading the needle performance that would be impossible through isolated effort. These collaborations create shared value by combining partners' different strengths to achieve outcomes that benefit everyone involved, thus demonstrating that stakeholder alignment amplifies rather than limits organizational potential. In polycrisis environments where individual organizations lack resources to address multiple simultaneous challenges, partnership networks become essential for accessing the diverse capabilities needed to maintain performance across all areas.

9. Implementing Conservation and Biodiversity Protection

– involves dedicating resources to environmental conservation through research partnerships, protection initiatives, or restoration projects that produce measurable environmental results. Analysis shows that these organizations developed conservation programs with realistic timelines and collaborated with relevant organizations. The research indicates that these organizations concentrated on initiatives that delivered quantifiable results suitable for their scale and geographic area. Examples:

- **Norsk Hydro:**
  - Invested NOK 30M in Biodiversity Research Consortium spanning academic, industry, and conservation partnerships
- **Singapore Airlines:**
  - Protected 98,555 hectares through Harapan Rainforest Initiative with 2,787 trees replanted and 260 hectares actively restored
- **Sony:**
  - Implemented 25-year Sony Forest initiatives with WWF guitarfish (endangered ray species) conservation partnership and measurable outcomes (3,125 mangrove propagules planted in Philippines)

What This Practice Reveals: This study shows that environmental stewardship creates business value through ecosystem services, stakeholder trust, and operational resilience. Organizations that protect biodiversity often find that healthy ecosystems support their supply chains, boost their social license to operate, and provide infrastructure that reduces operational risks—turning conservation into a strategic advantage. During a polycrisis where environmental and social challenges intensify, these investments offer stability buffers that can help organizations maintain performance when others may struggle.

10. Governing Animal Welfare

– involves establishing governance structures and policies

that incorporate animal welfare considerations into operational decisions. The organizations studied created councils, protection plans, and reporting systems that demonstrated ethical concern for animal welfare through transparent metrics. These data show that these organizations adopted protection measures that went beyond regulatory requirements to demonstrate proactive animal welfare leadership. Examples:

- **AstraZeneca:**
  - Established animal welfare governance through C-SAW (Council for Science and Animal Welfare) with transparent reporting covering 205,757 research animals
- **Entergy:**
  - Implemented a comprehensive Avian Protection Plan in 2011 with eagle nest buffers exceeding federal requirements and structured wildlife protection measures

What This Practice Reveals: Including vulnerable stakeholders without voice in decision-making demonstrates that comprehensive stakeholder thinking actually improves rather than limits business strategy. Organizations that go beyond traditional ethical boundaries develop decision-making practices capable of handling complex stakeholder environments while maintaining operational excellence. During a polycrisis, where demands clash more intensely, this broader stakeholder view helps organizations find solutions that serve multiple groups at once instead of creating winners and losers among stakeholders.

Implications for Leaders

The evidence is clear: threading the needle delivers exceptional performance across all stakeholder domains. These ten practices demonstrate that the assumed trade-off between business success and societal impact is a false constraint that limits organizational potential.

For leaders, this research offers a strategic choice. They can either continue with the either-or mindset that forces impossible trade-offs between financial performance and "doing good," or they can adopt these integrated practices to achieve better results across business, environmental, and social areas at the same time.

The competitive advantage is substantial. While other organizations view polycrisis as overwhelming threats requiring defensive damage control, threading the needle companies convert compound disruptions into opportunities for growth, stakeholder value creation, and market leadership. They don't just survive polycrisis environments—they use them as catalysts for innovation and change.

The Bigger Picture

Threading the needle offers a pathway toward addressing some of humanity's most pressing challenges. When companies integrate polycrisis response with stakeholder value creation and environmental protection, they transform business resources into solutions for ecological restoration, community development, and systemic resilience. Romi Mackiewicz, former Global Director of Brand & Purpose at Mars, Inc., demonstrates this thinking when she explains that her company views profit and purpose as "not conflicting entities" and considers achieving net zero emissions "as an investment in our company's long-term success" that will "simultaneously make a meaningful contribution to a more sustainable and more stable operating environment."[12]

This perspective expands stakeholder definitions to include future generations, ecological systems, and vulnerable populations without voice in traditional business decisions. When the threading the needle approach spreads across industries and geographies, business becomes a primary driver of the systemic changes our interconnected world urgently needs. When threading the needle practices spread across multiple organizations, the collective impact extends far beyond individual competitive advantages.

The question for leaders is not whether threading the needle is possible—the evidence demonstrates it clearly is. The question is whether we can afford for organizations not to adopt this approach when the stakes for society, the environment, and future generations have never been higher.

Appendix A. Study Methodology

The Sample: The sample included six organizations of varying sizes (12,000 to 150,000 employees) spanning electric utilities (Entergy), aviation (Singapore Airlines), aluminum production (Norsk Hydro ASA), pharmaceuticals (AstraZeneca), food manufacturing (Mars), and electronics and entertainment (Sony Corporation). These organizations represent diverse geographic footprints across North America, Europe, Asia-Pacific, and multiple continents, with annual revenues ranging from $6.4B to $47B. The sample encompasses different organizational structures, including publicly traded corporations (AstraZeneca, Entergy, Sony, Norsk Hydro), a government-owned enterprise (Singapore Airlines), and a private company (Mars). The organizations studied operated during diverse polycrisis manifestations, combining natural disasters (Hurricane Katrina), cyberattacks (LockerGoga ransomware), pandemics (COVID-19, SARS), accelerated climate change, economic volatility, abrupt regulatory changes, and extreme weather events.

Data collection: Data collection relied exclusively on publicly available information to ensure replicability and transparency. Over 150 documents were analyzed, including corporate websites (34 documents, 23%), third-party assessments (28, 19%), academic papers and research reports (14, 9%), news articles (12, 8%), corporate reports (12, 8%), press releases (11, 7%), partnership documentation (11, 7%), case studies (9, 6%), innovation reports (9, 6%), government reports (5, 3%), and legal documentation (5, 3%). This multi-source approach enabled triangulation of organizational claims and provided robust evidence for assessment scoring.

Measures: An eight-dimensional evaluation framework was developed based on the research literature to assess organizations for inclusion in the study. The literature search prioritized papers containing conceptual frameworks and evaluation models capable of assessing organizational performance across environmental impact, social benefit, economic viability, and polycrisis innovation dimensions.

Scite.ai was used to access multiple databases (PubMed, CINAHL, Scopus, Web of Science, Google Scholar), ensuring comprehensive coverage across health, environmental science, and management literature. Scite.ai was selected for its ability to classify citations as supporting, contrasting, or merely supporting work.[13] This classification provided valuable insights into how key papers have been received and critiqued within the scholarly community, aligning with the criteria-focused methodology by enabling assessment of both relevance and scholarly impact.

Studies were excluded if they focused solely on theoretical perspectives without empirical data or failed to address the intersection of organizational performance and socio-ecological well-being. The search yielded seven peer-reviewed articles published within the last ten years that addressed organizational performance and environmental/social impact. Notably, no papers specifically addressing polycrisis appeared in the results, although some examined innovations during crisis situations. This absence reflects the nascent state of polycrisis organizational research.

Content analysis of the selected articles identified five key themes: sustainability frameworks, systems thinking methodologies, organizational adaptability, cross-sector collaboration models, and socio-ecological resilience strategies. The themes informed the development of eight organizational dimensions drawing upon theoretical foundations from the original studies, including triple bottom line operationalization,[14] change escalation processes,[15] systems approaches in organizations,[16] systems engineering in complexity,[17] collaborative governance,[18] normative foundations of sustainability,[14] cultural impacts on crisis response,[19] ethical considerations,[20] and welfare beyond human considerations.[20]

The operational components or definitions for each dimension were derived from the theoretical literature supporting each construct and refined through the framework development process. Each dimension includes operational components—specific, observable behaviors and practices that were used to score organizations. These components ensure consistent evaluation by defining exactly what evidence assessors looked for in each area.

TABLE 1. ASSESSMENT FRAMEWORK DIMENSIONS AND COMPONENTS

Dimension and Definition	Operational Components
Sustainable Practices & Environmental Responsibility *Organizations implement triple bottom line approaches (people, planet, profit) through concrete initiatives like reducing carbon footprint, developing sustainable supply chains, and balancing economic prosperity with environmental and social responsibility.*	**Triple Bottom Line Integration** - Integrating economic, environmental, and social performance into core business strategy, demonstrating that profit and purpose can reinforce each other through measurable outcomes across all three dimensions. **Carbon Footprint Reduction** – Implementing science-based emission reduction targets with quantified results, decoupling business growth from carbon emissions through renewable energy, efficiency improvements, and systematic emission management. **Sustainable Supply Chain Innovation** - Developing transformative supply chain practices through innovative partnerships, circular economy approaches, and supplier engagement programs that deliver measurable environmental and social improvements.
Complex Adaptive Systems Capabilities *Organizations' ability to flexibly adapt structures and processes in response to environmental changes while learning from their surroundings.*	**Adaptive Response to Environmental Change** –Building organizational capacity to restructure operations and strategies in response to environmental disruptions through resilience investments, response frameworks, and demonstrated performance maintenance during change. **Organizational Learning Through Adaptation** – Capturing and applying lessons from environmental challenges through formal learning processes, post-crisis improvements, and demonstrated ability to achieve contradictory goals (e.g., growth with emission reductions). **Emergent Strategy Development** - Enabling bottom-up innovation and strategy development through employee-driven initiatives, community collaboration, and distributed decision-making frameworks that foster grassroots sustainability leadership.
Systems Thinking Orientation *Organizations' understanding of interconnections between business, social, and natural systems to enable holistic problem-solving approaches.*	**Recognition of Interconnections** – Demonstrating understanding of business-environment-social interdependencies through integrated approaches and stakeholder consideration. **Holistic Problem Framing** – Addressing sustainability through integrated approaches that consider multiple dimensions rather than isolated initiatives. Integrated Resource Management - Optimizing resources through renewable energy, circular economy principles, and cross-value chain investments.
Innovation in Crisis Management* *Organizations' development of novel crisis response approaches, using crises as catalysts for innovative practices that advance organizational resilience and sustainability efforts.*	**Crisis Opportunity Recognition** – Identifying and capitalizing on innovation opportunities within crisis situations, transforming challenges into competitive advantages or catalysts for accelerated sustainability progress. **Systems Engineering Application** – Applying structured, methodical approaches to solve complex problems during crises through systematic response frameworks, technical solutions, and quantifiable engineering outcomes. **Transformative Solution Development** - Creating fundamental innovations that change industry standards or business models during crisis situations, developing industry-first implementations and solutions with lasting impact.
Cross-Sectoral Collaboration on Sustainability *Organizations' engagement with diverse stakeholders through partnerships to address systemic challenges and foster sustainable practices.*	**Multi-stakeholder Partnership Development** – Building formal partnerships across sectors (government, NGO, academic, industry) through long-term relationship development, collaborative investments, and comprehensive stakeholder value creation. **Collaborative Innovation for Sustainability** - Developing novel sustainability solutions through external partnerships, industry working groups, technical collaborations, and shared innovations with measurable adoption and impact.
Ethical Frameworks & Transparency *Organizations' integration of ethical considerations and stakeholder value creation into sustainability practices, influencing transparency and decision-making toward sustainability.*	**Value-Based Decision Making** – Integrating explicit ethical principles into decision-making through principle-based governance, stakeholder benefit consideration, and executive accountability for social and environmental performance. **Transparency & Authentic Communication** - Committing to honest, comprehensive disclosure of sustainability performance through systematic reporting, third-party verification, anti-greenwashing practices, and authentic stakeholder engagement.

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TABLE 1. ASSESSMENT FRAMEWORK DIMENSIONS AND COMPONENTS, *CONTINUED*

Dimension and Definition	Operational Components
Responsive Organizational Culture *Organizations' cultural adaptability to sustainability challenges, where sustainability values shape organizational identity and operational excellence.*	**Cultural Adaptability to Environmental Challenges** – Maintaining operational excellence while advancing environmental goals through employee engagement and cultural integration. **Sustainability-Focused Organizational Identity** - Embedding sustainability into organizational purpose where environmental values enhance rather than constrain business operations.
Welfare Beyond Human Concerns *Organizations' consideration of non-human welfare (animal welfare and ecological health) in decision-making as part of their sustainability initiatives.*	**Animal Welfare Consideration** – Integrating animal welfare principles into operations through comprehensive policies, governance frameworks, welfare metrics, and proactive leadership in animal protection. **Ecosystem Stewardship** - Demonstrating commitment to ecological health through conservation partnerships, biodiversity protection, habitat restoration, and measurable environmental outcomes beyond regulatory compliance.

**Note: While evidence focuses on novel crisis response approaches to individual events, these innovative practices demonstrate capabilities essential for polycrisis performance, where organizations might use multiple interconnected challenges as catalysts for advancing resilience and sustainability efforts.*

Procedures

Organization Nomination: Ten leadership development professionals nominated organizations with which they had existing or prior relationships. Nominators received a standardized request including study objectives, preliminary selection criteria, and requests for organizational details, rationale, and evidence of relevant activities. This relationship-based nomination approach was designed to facilitate potential access for interviews and organizational insights while maintaining methodological rigor through standardized criteria and transparent disclosure of nominator relationships.

Data Collection Procedure: The data collection process (articles, reports, papers, case studies) followed a three-stage approach: organizational tracking, comprehensive documentation of source types, and structured evidence extraction. Organizational profiles were created including industry classification, headquarters location, company size, and polycrisis context documentation.

Multiple document types were logged for each organization. Each source was systematically tracked using standardized fields: source type, document title, author/publisher, publication date, URL location, file download status, relevance level (1=No evidence to 5=Excellent), applicable dimensions, and key topics covered.

Evidence for each dimension's operational components was systematically extracted from documented sources using a structured template. Each evidence entry was catalogued with comprehensive metadata including source identification numbers, evidence summary, interpretation rationale, key quantitative data, primary stakeholders involved, geographic scope, implementation status, evidence strength assessment, data completeness evaluation, last update timestamp, identified evidence gaps, and next search priorities. This approach ensured consistent evaluation criteria across organizations while maintaining transparency about source quality and evidence strength for each dimensional assessment.

Scoring: Organizations were rated on a 5-point scale for each operational component within each dimension (1 = No evidence, 5 = Exceptional evidence). All operational components within each dimension received equal weight. Component scores were averaged to determine the dimensional score, which was then multiplied by that dimension's weight to calculate its contribution to the overall organizational score.

TABLE 2. ASSESSMENT SCORING CRITERIA

Score	Level	Evidence Requirements	Implementation Characteristics
5	Exceptional Evidence	▪ Industry leadership (first mover, awards, recognition) ▪ Quantified systematic approaches with substantial investment ▪ Proven outcomes with measurable results	Comprehensive implementation with transformative impact
4	Strong Evidence	▪ Strong evidence with specific programs and metrics ▪ Multiple examples across different areas ▪ Clear implementation beyond stated intentions	Substantial implementation across multiple domains
3	Moderate Evidence	▪ Moderate evidence with some specifics ▪ Partial implementation with room for improvement ▪ Good intentions with limited systematic approach	Partial implementation with development potential
2	Limited Evidence	▪ Limited evidence with minimal implementation	Minimal implementation
1	No Evidence	▪ No evidence of criteria implementation	No implementation

Weighting: The framework uses a two-tier weighting system with four primary dimensions (15% each) and four supporting dimensions (10% each). This 60%-40% distribution emphasizes foundational capabilities while ensuring comprehensive assessment across all areas. Primary dimensions (15% each): Sustainable Practices & Environmental Responsibility, Complex Adaptive Systems Capabilities, Systems Thinking Orientation, and Innovation in Crisis Management. Supporting dimensions (10% each): Cross-Sectoral Collaboration, Ethical Frameworks & Transparency, Responsive Organizational Culture, and Welfare Beyond Human Concerns.

External Validation and Verification: The assessment incorporated multiple forms of third-party validation where available, including Science-based Targets initiative (SBTi) verification protocols, CDP A-List environmental disclosure recognition, Sustainalytics ESG ratings and rankings, UN Global Compact participation and Communication on Progress reporting, industry-specific awards (EEI Emergency Response Awards, Ethisphere recognition), academic research citations, and government partnership documentation. The scoring methodology systematically prioritized documented evidence with external validation, explicitly noting "verified" metrics where independent third-party confirmation existed.

Appendix B. Assessment Results

Total scores ranged from 72% to 82%, demonstrating strong performance threading the needle. Entergy Corporation and Singapore Airlines achieved the highest scores (82% each), followed by Norsk Hydro ASA (81%), AstraZeneca (79%), Mars Inc. (74%), and Sony Corporation (72%).

TABLE 3. ORGANIZATIONAL ASSESSMENT SCORES

Dimension	Entergy	Singapore Airlines	Norsk Hydro ASA	Astra Zeneca	Mars	SONY
1. SUSTAINABLE PRACTICES & ENVIRONMENTAL RESPONSIBILITY						
Triple Bottom Line Integration (economic prosperity, environmental stewardship, and social equality)	5	5	4	4	4	4
Carbon Footprint Reduction	5	4	4	5	4	4
Sustainable Supply Chain Innovation	3	4	3	4	4	3
2. COMPLEX ADAPTIVE SYSTEMS CAPABILITIES						
Adaptive Response to Environmental Change	5	4	5	4	3	4
Organizational Learning Through Adaptation	5	4	5	3	4	5
Emergent Strategy Development	4	3	3	3	4	3
3. CROSS-SECTORAL COLLABORATION						
Multi-stakeholder Partnership Development	4	5	5	5	4	5
Collaborative Innovation for Sustainability	4	5	4	4	3	3
4. SYSTEMS THINKING ORIENTATION						
Recognition of Interconnections	3	4	4	4	4	4
Holistic Problem Framing	3	3	4	4	4	4
Integrated Resource Management	4	3	4	4	3	4
5. INNOVATION IN CRISIS MANAGEMENT						
Crisis Opportunity Recognition	4	5	5	4	4	3
Systems Engineering Application (using a structured, methodical approach to solve complex problems during a crises).	5	4	5	3	4	3
Transformative Solution Development	5	5	4	4	4	3
6. ETHICAL FRAMEWORKS & TRANSPARENCY						
Value-Based Decision Making	3	5	3	4	4	3
Transparency & Authentic Communication	4	4	5	5	4	4

continued on next page

TABLE 3. ORGANIZATIONAL ASSESSMENT SCORES, *CONTINUED*

Dimension	Entergy	Singapore Airlines	Norsk Hydro ASA	Astra Zeneca	Mars	SONY
7. RESPONSIVE ORGANIZATIONAL CULTURE						
Cultural Adaptability to Environmental Challenges	5	4	4	3	4	4
Sustainability-Focused Organizational Identity	4	4	4	4	4	3
8. WELFARE BEYOND HUMAN CONCERNS						
Animal Welfare Consideration	3	3	2	4	2	2
Ecosystem Stewardship	4	4	4	4	3	4

Organizations showed strongest performance in Innovation in Crisis Management (average 62% of possible points), followed by Systems Thinking Orientation (57%) and Complex Adaptive Systems Capabilities (57%). The lowest average performance occurred in Welfare Beyond Human Concerns (33%), indicating this represents an emerging frontier for organizational practice. Ethical Frameworks & Transparency (40%) and Responsive Organizational Culture (39%) also showed room for improvement across the sample.

Appendix C. Company Profiles

AstraZeneca

Website: https://www.astrazeneca.com/

Industry: Pharmaceutical Biotechnology

Structure: Publicly traded

Headquarters: Cambridge, England

Number of Employees: 89,900

Annual Revenue: $68.50B

Assessment Score: 79%

Polycrisis Context: COVID-19 pandemic response while managing pharmaceutical industry sustainability pressures and environmental restoration requirements, demonstrating polycrisis where health, environmental, and regulatory challenges intersected.

Key Performance Indicators:

- 77.5% Scope 1&2 emissions reduction since 2015
- 90.4 million people reached through health access programs
- $1bn Ambition Zero Carbon investment commitment
- 54.5 million health screenings across 9 countries

External Recognition:

- Science-based Targets initiative (SBTi) verification
- CDP A-List recognition
- World Benchmarking Alliance Nature rank 7/28 pharmaceuticals

Primary Threading the Needle Evidence:

- Maintained health access expansion during COVID-19 while achieving significant emissions reductions
- EcoPharmacoVigilanceindustry-firstenvironmental transparency innovation

Entergy

Website: https://www.entergy.com/

Industry: Electric utility

Structure: Publicly traded company

Headquarters: New Orleans, LA

Number of Employees: 12,000

Annual Revenue: $11.93B

Assessment Score: 82%

Polycrisis Context: Hurricane Katrina and Rita in 2005 (26 days apart) with Katrina causing 1.1 million customers to lose power and damaging 3,000 miles of transmission lines and 30,000 miles of distribution lines; Rita affecting 800,000 customers immediately following Katrina; subsequent hurricanes Gustav (2008), Ike (2008), Isaac (2012), and Laura (2020) with escalating infrastructure damage and costs.

Key Performance Indicators:

- $153.52M economic impact through sustainability initiatives
- $137M resilience investment with storm adaptation
- 122,000 volunteer hours ($4M+ value)
- 50 EEI Emergency Response Awards

External Recognition:

- 50 EEI Emergency Response Awards demonstrating sustained excellence
- $54M federal GRIP funding for innovative grid solutions
- Founding member of Sustainable Supply Chain Alliance

Primary Threading the Needle Evidence:

- Converted hurricane challenges into $137M+ resilience opportunities and industry awards
- Post-Katrina transformation from 4-5 to 40-50 storm management staff with systematic learning

Mars, Inc.

Website: https://www.mars.com/

Industry: Food, veterinary services

Structure: Family-owned

Headquarters: McLean, Virginia

Number of Employees: 150,000

Annual Revenue: $47B annual sales

Assessment Score: 74%

Polycrisis Context: Climate change and agricultural disruption including cocoa crisis with 400% price increases due to climate change impacts, El Niño effects, and extreme weather in West Africa; deforestation disrupting key ecosystems, reducing biodiversity, and negatively impacting soil quality; human rights and labor crisis with child labor in cocoa supply chains; COVID-19 pandemic supply chain disruptions.

Key Performance Indicators:

- 60% business growth while reducing emissions 8%
- $1B investment commitment over 3 years
- $47B annual sales with integrated sustainability approach
- 140,000 Associates engaged in sustainability programs

External Recognition:

- Third-party verification of emissions reduction claims
- Sustainable sourcing certifications for deforestation-free cocoa

Primary Threading the Needle Evidence:

- Achieved contradictory goals of 60% growth and 8% emissions reduction simultaneously
- Transformed climate crisis into brand innovation opportunity with “Healthy Planet Productions” campaign

Norsk Hydro ASA

Website: https://www.hydro.com/en/en/

Industry: Aluminum production

Structure: Publicly traded with the Norwegian government holding a significant, but not controlling, stake

Headquarters: Oslo, Norway

Number of Employees: 35,000

Annual Revenue: 26.3B NOK EBITDA

Assessment Score: 81%

Polycrisis Context: March 19, 2019 LockerGoga ransomware attack encrypting files across global operations affecting 35,000+ employees in 40 countries, forcing suspension of normal operations and switch to manual systems with approximately $71M total impact; concurrent global crises including Brexit uncertainty, US-China trade war escalation, global economic slowdown, and manufacturing decline creating compound polycrisis conditions.

Key Performance Indicators:

- Industry-leading 3.4-3.9 kg CO2e/kg vs 18 kg global average
- NOK 880M+ Brazilian community investment
- 55% women executives (vs 36.3% Norway average)
- NOK 30M Biodiversity Research Consortium investment

External Recognition:

- #2/221 Sustainalytics ranking in diversified metals industry
- Microsoft DART collaboration recognition
- Industry standard for crisis communication excellence

Primary Threading the Needle Evidence:

- Transformed LockerGoga cyberattack into reputation-building opportunity through transparency leadership
- Crisis response became industry best practice while maintaining environmental performance 5x better than industry averageopportunity with “Healthy Planet Productions” campaign

Singapore Airlines

Website: https://www.singaporeair.com/

Industry: Aviation

Structure: Majority-owned by the Singapore government

Headquarters: Changi, Singapore

Number of Employees: 14,803

Annual Revenue: $19.5B

Assessment Score: 82%

Polycrisis Context: 2003 SARS outbreak requiring flight cuts by nearly one-third, 71% capacity reduction, and 6,600 flight staff on unpaid leave with tourism to Singapore falling 70%; 2005-2006 Avian Flu (H5N1) affecting regional aviation; 2008 Global Financial Crisis; 2020-2022 COVID-19 pandemic resulting in first-ever annual loss of SGD 4.27 billion and 98.6% fall in passenger numbers.

Key Performance Indicators:

- 30% fuel efficiency improvement during COVID-19 fleet modernization
- S$50M government programme backing for sustainability
- Net zero 2050 commitment with 5% SAF by 2030 target
- 98,555 hectares protected through conservation initiatives

External Recognition:

- UN Global Compact active participation since 2019
- Science-based targets verification
- 87% metric verification rate for sustainability reporting

Primary Threading the Needle Evidence:

- Used COVID-19 crisis as fleet modernization opportunity achieving 30% efficiency gains
- Applied SARS crisis learning to superior COVID-19 response with continued sustainability advancement

Sony Corporation

Website: https://www.sony.co.jp/en/

Industry: Electronics/Entertainment

Structure: Publicly traded

Headquarters: Minato City, Tokyo, Japan

Number of Employees: 113,000

Annual Revenue: $6.4B profit forecast

Assessment Score: 72%

Polycrisis Context: COVID-19 pandemic requiring business model adaptation, chip shortage and supply chain disruptions, demonstrating polycrisis where health, technology, and supply chain challenges intersected across global operations.

Key Performance Indicators:

- 13% sales growth during pandemic while advancing sustainability goals
- $100M Global Relief Fund across medical, education, creative sectors
- 25-year Sony Forest initiatives demonstrating long-term commitment
- $6.4B profit forecast with integrated sustainability approach

External Recognition:

- Ethisphere "World's Most Ethical Companies" 4 consecutive years (1 of only 136 globally)
- Road to Zero 2050 environmental commitment

Primary Threading the Needle Evidence:

- Achieved 13% sales growth during pandemic through gaming/streaming pivot while maintaining environmental commitments
- Transformed COVID-19 crisis into $100M Global Relief Fund innovation across multiple sectors

Appendix D. Limitations and Future Research

This exploratory study acknowledges several limitations inherent to its scope, methodology, and data sources that limit generalizability and theoretical development.

Framework Application: This research applies established organizational performance assessment frameworks to organizations operating during polycrisis conditions. While publicly available sources document novel response approaches to individual crisis events, the assessment evaluates capabilities essential for using crises as catalysts for innovation during polycrisis performance. Future research could develop polycrisis-specific frameworks for assessing transformative solution development across interconnected challenges.

Sampling Constraints: The selection process resulted in a sample comprised exclusively of large organizations. This creates significant gaps in organizational diversity that constrain generalizability to alternative organizational forms, including small-to-medium enterprises, cooperative structures, nonprofit organizations, mission-driven social enterprises, or organizations operating primarily in single geographic markets. Geographic representation, while spanning North America, Europe, and Asia-Pacific operations, does not include organizations headquartered in Latin America, Africa, the Middle East, or other developing regions, potentially limiting applicability to different cultural, regulatory, or economic contexts.

Assessment Approach for Organizations with Violation Histories: Several organizations had documented histories of regulatory violations, legal settlements, or compliance issues in areas including environmental protection, labor practices, or business ethics. Rather than exclusion, these organizations were included in this study based on their current performance. This decision reflects the reality that many large corporations have complex operational histories, and exclusion would have eliminated organizations currently demonstrating threading the needle performance.

Data Collection Constraints: The evaluation relied exclusively on publicly available information. Internal organizational processes, confidential documents, direct stakeholder perspectives, and organizational culture assessments were not accessible, potentially limiting a comprehensive understanding of practices that contribute to threading the needle.

Self-Reported Data Limitations: Organizational sustainability reports and press releases contain self-reported information that may present a favorable perspective. Although third-party validation was prioritized where available, the study could not independently verify all performance claims.

Data Currency and Reporting Lag Limitations: Given the dynamic nature of organizational performance and external reporting cycles, assessment information may not reflect the most current organizational status or recent developments. Corporate sustainability reporting typically involves 6-12 month lags between performance periods and public disclosure, while regulatory filings and third-party assessments may have more extended lag periods. This assessment represents organizational performance as documented through available public information during 2024-2025, acknowledging that organizational capabilities may have evolved since the most recent available data.

Future Research Directions

Future research should address these limitations through an expanded sample of organizational diversity across size, ownership structures, and cultural contexts, while including lower-performing organizations to identify critical failure factors that differentiate successful from unsuccessful approaches. Methodological advancement should employ mixed-method approaches combining public information analysis with organizational ethnography and stakeholder interviews to examine implementation processes and cultural dynamics underlying documented outcomes.

While this research identifies what high-performing organizations do, leaders will need to adapt these practices to their specific contexts, industries, and organizational cultures. Future research could develop specific frameworks and implementation guidance for how leaders can successfully adapt these threading the needle practices to diverse organizational settings.

Theoretical development should explore the relationship between organizational characteristics, crisis types, and adaptive capacity to develop more nuanced frameworks for understanding when and how organizations successfully integrate social and environmental objectives during periods of disruption. Cross-cultural research should investigate how different regulatory and cultural contexts influence sustainability leadership development and effectiveness. This foundational study provides a starting point for these expanded investigations into adaptive sustainability leadership across diverse organizational contexts.

Endnotes

1. Lawrence, M., Janzwood, S., & Homer–Dixon, T. (2022). What is a global polycrisis? *Cascade Institute.* https://wfabhmdrpib5-u5525.pressidiumcdn.com/wp-content/uploads/2022/04/What-is-a-global-polycrisis-v2.pdf
2. Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., Biggs, R., Carpenter, S. R., de Vries, W., de Wit, C. A., Folke, C., Gerten, D., Heinke, J., Mace, G. M., Persson, L. M., Ramanathan, V., Reyers, B., & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science, 347*(6223).
3. Bundy, J., Shropshire, C., & Buchholtz, A. K. (2013). Strategic cognition and issue salience: Toward an explanation of firm responsiveness to stakeholder concerns. *Academy of Management Review, 38*(3)
4. Crane, A., McKean, A., King, B. G., Maks-Solomon, C., McDonnell, M. H., Murphy, C., Voegtlin, C., & Noval, L. (2020). Corporate activism: Conceptualizing an emerging phenomenon. Academy of Management Proceedings, 2020(1), 13196.
5. Socio-ecological well-being refers to organizational contributions that advance social welfare and environmental stewardship through integrated approaches that recognize the interdependence of human and natural systems.
6. Salvato, C., Sargiacomo, M., Amore, M. D., & Minichilli, A. (2020). Natural disasters as a source of entrepreneurial opportunity: Family business resilience after an earthquake. Strategic Entrepreneurship Journal, 14(4), 594-615.
7. von Briel, F., Davidsson, P., & Recker, J. (2025). Why and how societal crises give rise to extreme growth outliers: A theory of external enablement. Academy of Management Review, 00(00), 1-24.
8. Leslie, J. B., Smith, D. J., Shrestha, S., & Iltefat, J. (2025). From crisis to transformation: Leveraging telemedicine to drive healthcare system change in an age of polycrisis. *Center for Creative Leadership*. https://doi.org/10.35613/ccl.2025.2066
9. Silver, K., & Garofalo, P. (2025). Excusing corporate wrongdoing and the state of nature. *Academy of Management Review, 50*(3), 537-559.
10. Altay, N., & Ramirez, A. (2010). Impact of disasters on firms in different sectors: Implications for supply chains. *Journal of Supply Chain Management, 46*(4).
11. Bansal, P., & Song, H. C. (2017). Similar but not the same: Differentiating corporate sustainability from corporate responsibility. *Academy of Management Annals, 11*(1).
12. Birch, K. (2024, February 19). How Mars is socialising its sustainability commitments. Sustainability Magazine. https://sustainabilitymag.com/sustainability/how-mars-is-socialising-its-sustainability-commitments
13. Nicholson, J. M., Mordaunt, M., Lopez, P., Uppala, A., Rosati, D., Rodrigues, N. P., Grabitz, P., & Rife, S. C. (2021). Scite: a smart citation index that displays the context of citations and classifies their intent using deep learning. *Quantitative Science Studies, 2*(3). https://doi.org/10.1162/qss_a_00146
14. El-Bassiouny, N., Wilson, J., & Esmat, S. (2017). An Islamic macromarketing perspective on sustainability. *Journal of Islamic Marketing, 8*(2), 187-203.
15. Girod, S., & Whittington, R. (2015). Change escalation processes and complex adaptive systems: From incremental reconfigurations to discontinuous restructuring. *Organization Science, 26*(5), 1520-1535.
16. Nurmi, J., Pulkkinen, M., Seppänen, V., & Penttinen, K. (2018). Systems approaches in the enterprise architecture field of research: A systematic literature review. In A. Onderzoek (Ed.), *Enterprise, Business-Process and Information Systems Modeling* (pp. 18-38). Springer.
17. Gilbert, D., & Yearworth, M. (2016). Complexity in a systems engineering organization: An empirical case study. *Systems Engineering, 19*(5), 422-435.

18. Lynch, M., Andersson, G., & Johansen, F. (2021). Merging systems thinking with entrepreneurship: Shifting students' mindsets towards crafting a more sustainable future. *Sustainability, 13*(9), 4946.

19. Liu, J., Fuming, W., & Wang, W. (2011). Impact of IT usage on organizational culture: Evidence from China. *International Conference on E-Business and E-Government,* 312-316.

20. Vigors, B., Sandøe, P., & Lawrence, A. (2021). Positive welfare in science and society: Differences, similarities and synergies. *Frontiers in Animal Science, 2.*

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