

Trust-Preserving Safety Leadership Near-Miss Reporting, Incident Communication and Learning in Rail, Healthcare, Aviation and Emergency Response Systems

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ABSTRACT

Safety-critical organizations fail not only through technical breakdowns, but also through leadership responses that suppress weak signals, communicate before facts are stabilized, accelerate blame, or close incidents without verifiable learning. Railways, hospitals, aviation systems and emergency responders depend on staff willingness to report near misses, leaders' ability to protect evidence under pressure, and institutional capacity to convert adverse events into corrective action without destroying trust. This revised paper strengthens the Trust-Preserving Safety Leadership framework by adding comparative positioning against established safety management frameworks, non-confidential cross-sector case demonstrations, a validation strategy for the Safety Incident Trust-Preservation Index (SITPI), and a fuller discussion of implementation barriers. Building on safety culture, high-reliability organizing, just culture, psychological safety, human factors, systems safety and crisis communication scholarship, the paper proposes an eight-stage Safety Incident Trust-Preservation Model: event recognition, immediate containment, fact stabilization, humane communication, technical review, fair accountability, corrective action and learning closure. It further develops a Near-Miss Reporting Trust Loop, a safety communication decision tree and an expanded SITPI measurement architecture for future empirical testing. The article is conceptual and design-oriented; it does not claim statistical validation. Its contribution is to provide a practical leadership-governance layer that can complement ISO 45001, ICAO Safety Management Systems and WHO patient safety approaches by protecting life, evidence, dignity, accountability, truth flow and recurrence prevention.

Keywords: trust-preserving safety leadership; near-miss reporting; safety culture; just culture; psychological safety; high-reliability organizations; incident communication; Safety Incident Trust-Preservation Index; rail safety; patient safety; aviation safety; emergency response.

Methodological transparency note

This manuscript remains a conceptual and framework-development article. It has been revised to include illustrative case demonstrations and a detailed empirical validation agenda, but it does not present pilot results, confidential incident records or statistical findings. The revised version therefore strengthens testability without overstating evidence.

Research Highlights

- Reframes near misses as early-warning intelligence rather than administrative embarrassment or individual failure.

- Integrates safety culture, just culture, psychological safety, high-reliability organizing, human factors, systems safety and crisis communication into a sequenced leadership-governance framework.
- Adds a comparative analysis with ISO 45001, ICAO Safety Management Systems and WHO patient safety approaches to clarify originality and boundary of contribution.
- Expands the Safety Incident Trust-Preservation Index into a measurable construct with scoring, reliability, validity and pilot-testing considerations.
- Provides non-confidential cross-sector case demonstrations for healthcare, rail, aviation and emergency response, while explicitly avoiding empirical overclaiming.

INTRODUCTION

Safety Events as Tests of Leadership Trust

Safety-critical systems are designed around technical reliability, procedural compliance and regulatory control. Yet the social response to a safety signal often determines whether the organization learns early or fails late. A near miss, weak signal, field hesitation, clinical anomaly, maintenance warning or dispatch ambiguity may be technically minor at first sight, but it can disclose the boundary condition at which the system is becoming unsafe.

The leadership response to such signals is decisive. A leader can make reporting safe or dangerous. A leader can stabilize facts or accelerate rumor. A leader can protect investigation integrity or contaminate the record through premature blame. A leader can communicate with humane bounded truth or retreat into silence and defensive public relations. These responses do not replace technical investigation; they shape the cultural and governance environment in which technical investigation becomes possible.

This paper develops Trust-Preserving Safety Leadership as a cross-sector leadership framework for safety-critical incident learning. It argues that trust is preserved not by protecting institutional image, but by protecting life, evidence, dignity, fairness and learning. Trust-preserving leadership is therefore not reputational management. It is disciplined safety governance under uncertainty.

The revised manuscript responds to four scholarly needs. First, it positions the model against established safety management frameworks so that its distinct contribution is clearer. Second, it adds non-confidential case demonstrations to show how the framework can be applied. Third, it expands SITPI from a conceptual score into a measurement architecture that can be validated. Fourth, it discusses adoption barriers, sector-specific limitations and risks of misuse.

Literature Foundation and Conceptual Gap

Safety culture scholarship emphasizes the shared assumptions, practices and priorities through which organizations perceive risk, discuss uncertainty, report hazards and respond to failure. Reason's work on organizational accidents and human error remains foundational because it shifts analysis from the visible final act to latent conditions, defenses and system design. Westrum's typology of organizational cultures further explains why some organizations generate information while others suppress it.

High-reliability organization theory adds that safety-sensitive institutions must remain preoccupied with failure, reluctant to simplify, sensitive to operations, committed to resilience and deferential to expertise. These principles are directly relevant to near-miss reporting because early warnings are often ambiguous, inconvenient and easy to rationalize away.

Just culture theory rejects both punitive blame and accountability avoidance. Human error, at-risk behavior, reckless conduct and system-induced weakness require different responses. A blame-first culture suppresses reporting; a blame-free culture that refuses responsibility can damage legitimacy. The trust-preserving approach therefore uses fair accountability as a bridge between learning and justice.

Psychological safety explains why staff speak up or remain silent. If reporting a near miss creates humiliation, retaliation or career risk, staff learn that silence is safer than transparency. In safety-critical systems, silence is not merely a communication issue; it is a latent hazard.

Crisis communication literature adds another missing layer. During an incident, stakeholders need verified information, practical guidance, empathy, privacy protection and a clear rhythm for updates. Silence can be interpreted as concealment; premature certainty can become misinformation. The communication challenge is therefore to state what is known, label what remains unknown and avoid unsupported assurance.

The conceptual gap addressed in this paper is the absence of a compact cross-sector leadership sequence that connects weak-signal reporting, containment, fact stabilization, humane communication, technical review, fair accountability, corrective action and learning closure. Existing standards and frameworks provide essential safety-management architecture, but they do not always operationalize the leadership conduct required to preserve trust during the incident response itself.

Comparative Positioning Against Established Safety Frameworks

Trust-Preserving Safety Leadership is not presented as a substitute for sectoral safety standards, statutory inquiries, clinical governance, aviation SMS, occupational health and safety systems or emergency command protocols. It is a leadership-culture layer that can operate within such systems. The following comparison clarifies the framework's distinctive contribution and practical boundary.

Table 1. Comparative positioning of Trust-Preserving Safety Leadership

Framework	Primary orientation	Key contribution to safety governance	Distinct role of Trust-Preserving Safety Leadership
ISO 45001:2018	Occupational health and safety management system covering leadership commitment, worker participation, hazard identification, risk control, performance evaluation and continual improvement.	Provides a structured management-system approach for safe and healthy workplaces and continual OH&S performance improvement.	Adds a specific incident-response leadership layer: how leaders handle weak signals, reporting safety, fact stabilization, humane communication and learning closure during safety events.
ICAO Annex 19 and Safety Management Manual	Aviation safety management through State Safety Programmes, service-provider Safety Management Systems, safety policy, risk management, assurance and promotion.	Institutionalizes hazard reporting, risk management, safety assurance and safety promotion across aviation systems.	Adds cross-sector leadership behavior under uncertainty, especially communication boundaries, reporter trust, affected-person dignity and fair accountability without contaminating investigation.
WHO Global Patient Safety Action Plan 2021-2030	Strategic direction for eliminating avoidable harm in health care, strengthening policies, safe clinical processes, patient/family engagement and learning systems.	Provides global policy direction for patient safety, including organizational learning and patient-centered safety improvement.	Translates patient-safety learning logic into a cross-sector incident sequence and measurable trust-preservation index adaptable beyond healthcare.
High-Reliability	Mindful organizing under high-risk conditions through	Explains why high-risk organizations must	Converts these principles into a practical incident response sequence

Organization principles	preoccupation with failure, operational sensitivity, resilience and deference to expertise.	remain alert to weak signals and operational reality.	with communication and accountability gates.
Trust-Preserving Safety Leadership	Leadership-governance layer for incident response, near-miss learning and safety communication.	Provides a sequenced model, trust loop, communication tree, SITPI and adoption roadmap.	Complements existing standards by measuring whether leadership preserves truth flow, evidence, dignity, fairness and learning during incidents.

This comparison clarifies that the proposed model is not a rival standard. Its originality lies in integrating the interpersonal, communicative and accountability dimensions that often determine whether formal safety systems receive honest evidence in time to prevent recurrence.

Conceptual Methodology and Evidence Boundary

The paper follows a conceptual framework-development method. It synthesizes literature from safety culture, high-reliability organizing, just culture, psychological safety, human factors, systems safety, incident reporting and crisis communication. These streams are translated into a practical leadership sequence that can be adapted across rail, healthcare, aviation and emergency response.

The method proceeds in five steps. First, recurring leadership failure modes are identified: reporting fear, containment delay, fact-rumor confusion, defensive communication, blame-first review, symbolic correction and weak learning closure. Second, these failure modes are converted into an eight-stage trust-preservation sequence. Third, the sequence is mapped against established frameworks to clarify complementarity and distinct contribution. Fourth, stylized cross-sector case demonstrations show how the model can be applied without confidential data. Fifth, the SITPI measurement architecture is specified for future validation.

The paper deliberately avoids empirical overclaiming. The case demonstrations are illustrative and non-confidential; they are not presented as observed field results. The SITPI is proposed as a research instrument that requires expert review, reliability testing, factor validation and predictive testing before it can be treated as an empirical index. This explicit evidence boundary strengthens scholarly integrity while preserving practical utility.

Trust-Preserving Safety Leadership Framework

Trust-Preserving Safety Leadership is defined as the leadership capability to convert weak signals, near misses and adverse safety events into immediate protection, verified facts, humane communication, technical review, fair accountability, corrective action and institutional learning. It is a governance capability because it determines how the organization behaves while facts are incomplete and consequences are visible.

The framework rests on six operating principles. First, life safety precedes reputation, schedule, financial optics and service continuity. Second, facts must be stabilized before cause, blame or full assurance is communicated. Third, near-miss reporters should be treated as contributors to prevention, not sources of embarrassment. Fourth, affected persons and families require humane communication, not image-protection messaging. Fifth, accountability should be evidence-based and differentiated through just-culture logic. Sixth, review is incomplete until corrective action is verified and lessons return to the reporting culture.

The framework converts safety leadership from personality-dependent response into a sequence that can be taught, audited and improved. It is especially useful in organizations where technical systems exist but trust flow is weak: staff hesitate to report, leaders communicate defensively, incident reviews blame the visible actor, or corrective actions remain symbolic.

Figure 1. Safety Incident Trust-Preservation Architecture

Weak signal or event -> Safety containment -> Fact stabilization -> Humane communication -> Technical review -> Fair accountability -> Corrective action -> Learning closure -> Improved reporting trust and recurrence monitoring.

Eight-Stage Safety Incident Trust-Preservation Model

The model separates safety response into a sequence of governance gates. The order matters. Communication before containment can mislead. Accountability before technical review can scapegoat. Corrective action before root-cause analysis can become symbolic. Learning without feedback remains invisible and weakens future reporting motivation.

Table 2. Eight-stage Safety Incident Trust-Preservation Model

Stage	Trust-preserving question	Risk if skipped	Required evidence or output
1. Event recognition	What incident, near miss, unsafe condition or weak signal has activated the safety response?	Delayed recognition and loss of prevention window.	Event statement, activation time, location, source of report and immediate risk classification.
2. Immediate containment	What action protects life, patients, passengers, responders, staff or the public now?	Secondary harm, uncontrolled exposure and disturbance of evidence.	Containment log, hazard isolation note, rescue/medical action, command lead and support mobilization.
3. Fact stabilization	What is confirmed, probable, unknown and not yet sayable?	Rumor becomes evidence; speculative blame enters the record.	Fact sheet with uncertainty labels, evidence log, source controls and version history.
4. Humane communication	Who needs support, privacy, guidance and next-update assurance?	Mistrust, perceived concealment, insensitive messaging and stakeholder panic.	Bounded statement, liaison route, support plan, privacy controls and update rhythm.
5. Technical review	What failed technically, operationally, clinically, procedurally or organizationally?	Superficial correction and recurrence.	Timeline, barrier analysis, human factors review, expert inputs and investigation scope.
6. Fair accountability	How will responsibility be examined without scapegoating or impunity?	Injustice, defensiveness, silence or accountability avoidance.	Just-culture classification, review minutes, role analysis and accountable action path.
7. Corrective action	What barrier, training, design, resource, procedure or supervision change prevents recurrence?	Circulars, warnings or briefings replace real prevention.	Action owner, deadline, resource, verification evidence and governance sign-off.
8. Learning closure	How will lessons return to reporters, teams and governance forums?	Incident memory fades; future weak signals are underreported.	Learning brief, feedback to reporter, recurrence metric, training update and monitoring cycle.

Near-Miss Reporting Trust Loop

A near miss is a safety event that reveals vulnerability before irreversible harm occurs. Its value lies in prevention. However, a near-miss system fails when reporting creates personal risk without visible learning. Staff may then conclude that silence is safer than transparency.

The Near-Miss Reporting Trust Loop treats reporting as a trust exchange. The reporter provides early intelligence. The organization must provide protection, triage, review, corrective ownership and feedback. Without feedback, reporting becomes a one-way extraction of risk information and trust declines over time.

Leaders must interpret reporting volumes carefully. More reports may reflect a healthier reporting climate rather than deteriorating safety. Conversely, low reporting in a high-risk organization can signal fear, fatigue, normalization of deviance or lack of confidence that anything will change.

Figure 2. Near-Miss Reporting Trust Loop

Report -> Protect reporter -> Triage severity and recurrence -> Review pattern -> Assign corrective owner -> Verify action -> Feedback to reporter/team -> Reporting trust increases -> Earlier weak signals surface.

Table 3. Near-miss signals and trust-preserving leadership response

Near-miss signal	Unsafe leadership reaction	Trust-preserving response	Evidence to review
Repeated equipment alert	Treat as nuisance data until failure occurs.	Classify as pattern signal and verify maintenance, design and inspection factors.	Alert logs, maintenance history, inspection records, operator notes and trend data.
Clinical handover ambiguity	Blame individual memory or carelessness.	Review workload, shift design, handover protocol and communication clarity.	Handover sheets, staffing pattern, medication records, duty roster and interviews.
Rail operation irregularity	Treat as isolated field error.	Examine human factors, signal interface, rostering, training and control-room communication.	Control logs, crew statements, signal data, rostering, rule compliance and site context.
Aviation maintenance concern	Pressure team to release the asset quickly.	Apply safety gate, engineering review and protected escalation route.	Defect history, release records, maintenance notes, engineering assessment and QA review.
Emergency dispatch ambiguity	Assume the communication failure is minor.	Review protocol, call classification, resource allocation and inter-agency handover.	Dispatch logs, radio records, responder feedback, timeline and call categorization.

Incident Communication Decision Tree

Safety incident communication is not ordinary public relations. It has a moral and operational function because affected persons, families, staff, regulators and the public are trying to understand risk, loss, responsibility and

future safety. The communication standard is not to say everything immediately. It is to say verified truth, acknowledge uncertainty, identify protective actions and commit to the next update.

Affected-person communication should not be displaced by media communication. When possible, families and directly affected persons should receive respectful private communication before broad public messaging. A named liaison, privacy protection, support pathway and update rhythm are part of safety leadership.

Bounded communication reduces two opposing risks. Complete silence may be interpreted as concealment. Premature certainty may later become misinformation. A holding statement bridges this gap by acknowledging the event, stating immediate protective action, avoiding cause claims and time-boxing the next update.

Figure 3. Safety Incident Communication Decision Tree

Is there immediate public-safety guidance? If yes, issue urgent bounded warning. If no, identify audience: affected persons, internal responders, regulator/investigator, staff, media/public. For each audience: communicate only verified facts, practical actions, support route, uncertainty and next-update time. Do not assign cause or blame before review.

Table 4. Safety communication boundary matrix

Audience	Permitted communication	Prohibited communication	Trust-preserving output
Internal responders	Trigger, hazard boundary, containment priority, command structure and next action.	Speculation, blame, contradictory instructions and emotional directives.	Single source of operational truth.
Affected families/persons	Verified status, liaison route, privacy protection, support plan and next update.	Defensive tone, unsupported assurance, public-first disclosure or insensitive timing.	Humane support and dignity-preserving updates.
Regulator/investigator	Fact sheet, preservation measures, safety action and cooperation pathway.	Selective evidence, premature cause claim or informal blame narrative.	Transparent cooperation and defensible record.
Media/public	Bounded holding statement, public-safety guidance and update time.	Denial before verification, exaggeration, technical speculation or premature fault assignment.	Credible information under uncertainty.
Staff not directly involved	Verified internal brief, support options, rumor control and learning expectation.	Gossip, accusation and uncontrolled forwarding.	Confidence, psychological safety and reporting discipline.

Fair Accountability and Learning-First Review

After a serious safety event, the easiest question is who failed. The more valuable question is what happened, what conditions existed, which barriers failed and which decisions created risk. Blame-first review creates emotional closure but weak prevention. It also teaches future reporters that visibility is dangerous.

Learning-first review is not accountability avoidance. It delays judgment until evidence is sequenced and cause pathways are reconstructed. It distinguishes human error, at-risk behavior, reckless conduct, organizational

pressure and system weakness. This distinction allows organizations to be fair to individuals while still serious about responsibility.

Fair accountability also protects institutional legitimacy. Families and the public do not trust evasive systems, while staff do not trust arbitrary punishment. The leadership task is to create an evidence pathway in which responsibility is neither hidden nor prematurely assigned.

Table 5. Incident review design: blame-first versus learning-first

Review element	Blame-first pattern	Learning-first pattern	Safety value
Opening question	Who is responsible?	What happened, what conditions existed and what must be stabilized?	Prevents premature narrowing of inquiry.
Evidence handling	Evidence interpreted through accusation.	Evidence preserved, sequenced and labelled as confirmed or uncertain.	Protects investigation integrity.
Human role	Final actor treated as the cause.	Human action examined within system, barriers, context, workload and constraints.	Improves fairness and prevention.
Communication	Defensive or punitive language.	Bounded, humane and factual language.	Protects public and staff trust.
Corrective action	Warning, circular or one-time discipline.	Barrier correction, training, design change, process redesign and monitoring.	Reduces recurrence.
Learning closure	Closed after file completion.	Returned to reporters, teams and governance forums.	Turns incident memory into improvement.

Cross-Sector Case Demonstrations

To strengthen practical demonstration without fabricating empirical results, this section presents stylized, non-confidential case demonstrations. They are designed for training, simulation or pilot-study use. They show how the same leadership sequence can be adapted to different safety-critical domains while respecting sector-specific technical authority.

Table 6. Cross-sector illustrative case demonstrations for pilot use

Sector and illustrative trigger	Trust-preserving application	Evidence to collect for a pilot	Sector-specific caution
Healthcare: medication near miss detected before administration.	Protect the reporter, stabilize medication order facts, inform clinical lead, review handover and prescribing workflow, classify human/system	Reporting timestamp, reporter feedback, order record, handover notes, staffing level, review minutes, corrective action and recurrence metric.	Patient confidentiality, clinical governance and family communication rules must govern disclosure.

	factors, correct protocol and feed learning back to ward team.		
Rail: repeated signal interface irregularity reported by crew.	Treat as pattern signal, contain operational risk if necessary, preserve logs, issue bounded internal communication, conduct technical and human factors review, correct asset/process/training gaps.	Control logs, crew statements, signal data, maintenance record, traffic context, safety circulars, training update and recurrence trend.	Operational restoration pressure must not override evidence preservation or statutory reporting duties.
Aviation: maintenance engineer raises concern before release.	Apply protected escalation route, hold release if safety gate is triggered, stabilize defect evidence, notify appropriate accountable managers, conduct engineering review and document decision.	Defect history, maintenance release record, engineering assessment, quality assurance record, escalation log and safety risk assessment.	Accident/incident investigation independence and aviation regulator protocols must not be contaminated by leadership speculation.
Emergency response: dispatch ambiguity during multi-agency incident.	Clarify command lead, stabilize incident facts, issue public warning only if needed, review call classification and radio handover, protect responder feedback and update protocols.	Dispatch logs, radio records, incident command notes, public information releases, responder debrief and after-action review.	Rapidly evolving public risk may require communication before full fact closure; uncertainty must be stated clearly.

These demonstrations show that the model is transferable at the leadership-governance level, not identical at the technical level. Each sector must retain its own statutory protocols, investigation methods and professional standards.

Safety Incident Trust-Preservation Index (SITPI) Version 2.0

SITPI is proposed as a diagnostic index for evaluating whether safety leadership preserved truth flow, containment discipline, communication trust, review fairness and learning closure during an incident or near-miss cycle. It should not be used as a reputational shield or a cosmetic compliance score. Its purpose is learning, auditability and research.

The revised index uses eight dimensions aligned with the eight-stage model. Each dimension is scored from 0 to 5: 0 = absent/no evidence; 1 = ad hoc and undocumented; 2 = partially documented but inconsistent; 3 = consistently documented; 4 = evidence-backed and audited; 5 = mature, independently reviewable and linked to learning/outcome monitoring. The raw score ranges from 0 to 40 and may be normalized to a 100-point score by multiplying by 2.5.

A score should always be supported by evidence. A high composite score cannot compensate for a critical failure in containment, evidence preservation or humane communication. For this reason, organizations may define red-flag conditions: any life-safety containment failure, evidence tampering, retaliation against a reporter, or knowingly false public statement should trigger governance review regardless of total score.

Table 7. SITPI Version 2.0 dimensions and evidence base

Dimension	Audit question	Observable evidence	Trust value
D1. Reporting safety	Can staff report near misses without humiliation, retaliation or career risk?	Anonymous survey, reporting trend, reporter feedback, non-retaliation record and escalation route.	Truth flow and early warning.
D2. Containment discipline	Was immediate safety stabilized before reputation or service pressure?	Containment timeline, hazard isolation, rescue/medical action, command note and resource mobilization.	Prevention of secondary harm.
D3. Fact stabilization	Were confirmed facts, assumptions, unknowns and speculation separated?	Fact sheet, evidence log, uncertainty labels, version control and approval trail.	Investigation integrity.
D4. Humane communication	Were affected persons supported with verified, respectful and privacy-aware updates?	Liaison record, support plan, statement samples, privacy controls and update schedule.	Dignity and stakeholder trust.
D5. Technical review quality	Was the review sufficiently technical, systemic and human-factors aware?	Timeline, barrier analysis, expert notes, equipment/data review and system-context mapping.	Substantive prevention.
D6. Fair accountability	Were human error, at-risk behavior, reckless conduct and system weakness distinguished?	Just-culture classification, review minutes, role analysis and accountability pathway.	Justice without scapegoating.
D7. Corrective closure	Did actions address verified causes with owners, deadlines and verification evidence?	Action register, resource approval, completion evidence and audit check.	Real prevention rather than symbolic closure.
D8. Learning diffusion	Were lessons returned to reporters, teams and governance forums and monitored for recurrence?	Learning brief, training update, recurrence metric, governance review and feedback note.	Organizational memory and resilience.

SITPI Validation Strategy

A credible index must demonstrate reliability, validity and practical feasibility. The following validation pathway is proposed before SITPI is used for benchmarking or research claims.

Table 8. Proposed reliability and validity strategy for SITPI

Validation step	Method	Evidence standard	Purpose
Content validity	Delphi panel of safety experts from healthcare, rail, aviation, emergency response, human factors, crisis communication and legal/regulatory domains.	Content Validity Index for item relevance, clarity and necessity; documented revision rounds.	Ensures the dimensions represent the construct across sectors.
Inter-rater reliability	Two or more trained auditors independently score the same anonymized incident records or simulation packets.	Intraclass correlation coefficient for continuous scores; weighted kappa for ordinal item ratings.	Tests whether scoring is consistent across reviewers.
Internal consistency	Pilot survey/audit data across multiple units or simulated scenarios.	Cronbach alpha and McDonald omega interpreted carefully because dimensions may be formative as well as reflective.	Tests whether dimensions cohere without forcing false uniformity.
Construct validity	Exploratory and confirmatory factor analysis after sufficient sample size is achieved.	Clear factor structure or justified formative index model.	Tests whether the measurement model matches theory.
Convergent validity	Compare SITPI with established safety culture, psychological safety and speaking-up measures.	Positive association with reporting climate, safety communication and organizational learning scales.	Shows that SITPI relates to adjacent constructs.
Discriminant validity	Compare SITPI with unrelated administrative or generic satisfaction measures.	Lower association than with safety-specific constructs.	Shows that SITPI is not merely general morale.
Predictive validity	Longitudinal study of anonymized incident outcomes.	Association with earlier reporting, shorter containment time, more verified closure and lower recurrence.	Tests whether SITPI has practical safety relevance.
Feasibility and burden	Pilot in small number of units for three to six months.	Time-to-score, auditor training needs, staff acceptability and data availability.	Ensures the tool can be used without becoming bureaucratic burden.

Implementation Challenges and Adoption Barriers

The framework will not succeed merely because the model is logically attractive. Safety leadership reforms often fail due to fear, legal complexity, resource constraints, status hierarchy, communication habits and weak governance follow-through. The revised framework therefore includes explicit adoption barriers and mitigation strategies.

Table 9. Implementation barriers and mitigation measures

Barrier	Likely effect	Mitigation	Adoption indicator
Blame culture and retaliation fear	Weak-signal reporting declines or becomes delayed.	Non-retaliation policy, protected reporting, just-culture training and visible feedback to reporters.	Increase in timely near-miss reporting and improved reporter feedback.
Legal and liability anxiety	Leaders avoid communication or communicate defensively.	Pre-approved bounded statements, legal-review boundary, evidence preservation protocol and liaison role.	Fewer corrected statements and clearer update rhythm.
Data quality and reporting fatigue	Reports become incomplete, duplicated or symbolic.	Simple triage forms, feedback loop, pattern review and closure discipline.	Higher completeness of report fields and shorter triage time.
Hierarchical silence	Frontline expertise does not reach decision makers.	Deference-to-expertise rule, structured debriefs and psychologically safe review forums.	More frontline inputs captured in review record.
Public/media pressure	Premature assurance, denial or blame narrative.	Holding statement protocol, fact cell, communication cell and next-update discipline.	Reduced rumor correction and consistent public messaging.
Resource constraints	Corrective actions remain unfunded or delayed.	Prioritize high-consequence barriers, assign accountable owners and escalate resource needs transparently.	Verified closure of high-risk actions.
Index misuse	SITPI becomes image score or audit theater.	Evidence-backed scoring, independent review, red-flag override and learning-oriented governance.	Score linked to action, not publicity.
Sectoral language differences	Cross-sector training feels generic or irrelevant.	Adapt terminology and examples while retaining common leadership sequence.	Sector-specific checklists accepted by practitioners.

Sector-Specific Limitations

The model is transferable at the level of leadership sequence, but not identical in operational detail. Healthcare incidents require strict patient confidentiality, clinical governance and sensitivity to family communication. Aviation requires preservation of investigation independence, adherence to regulator protocols and technical chain-of-custody discipline. Rail incidents often involve restoration pressure, multi-agency field coordination and statutory inquiry boundaries. Emergency response systems operate in rapidly evolving scenes where public warning may be required before complete fact stabilization.

The framework should therefore be adapted through sector-specific annexures. Each annexure should define reporting triggers, containment authority, evidence custodianship, disclosure limits, communication approval,

technical review body, fair accountability pathway and learning closure forum. A generic model without such adaptation may be too broad for operational use.

The model also has cultural limitations. In highly hierarchical organizations, reporting safety may require more time to mature. In resource-constrained systems, corrective actions may be delayed despite good review. In politically visible incidents, communication discipline may be difficult to protect. These limitations do not invalidate the framework; they identify the conditions that implementation must deliberately manage.

Research Propositions and Empirical Agenda

The revised manuscript converts the conceptual model into testable propositions. These are not findings of the present paper; they are intended to guide future empirical research.

Table 10. Research propositions and empirical pathways

Proposition	Expected relationship	Possible indicators	Suggested method
P1. Reporting climate	Higher psychological safety and just-culture perception will predict more timely and complete near-miss reporting.	Reporting volume adjusted for exposure, time-to-report, report completeness and reporter feedback.	Survey plus incident-register analysis.
P2. Fact stabilization	Incidents with explicit uncertainty labeling will have fewer communication corrections and lower rumor burden.	Number of corrected statements, rumor-monitoring notes, stakeholder complaint themes.	Comparative case analysis or simulation.
P3. Humane communication	Affected-person liaison and update rhythm will improve perceived institutional trust.	Affected-person feedback, complaint escalation, liaison contact records.	Post-incident survey/interview.
P4. Fair accountability	Just-culture classification will mediate the relationship between incident review and future willingness to report.	Just-culture scores, staff willingness-to-report scale, repeat reporting behavior.	Longitudinal survey and mediation analysis.
P5. Corrective closure	Verified corrective actions will predict lower recurrence than circulars or symbolic training alone.	Closure evidence, audit verification, recurrence of similar incident types.	Archival analysis.
P6. SITPI validity	Higher SITPI scores will be associated with earlier reporting, faster containment, better stakeholder communication and stronger learning diffusion.	SITPI score, containment time, learning brief completion, recurrence rate.	Multi-site pilot and mixed-method evaluation.

Practical Adoption Roadmap

Organizations can adopt the framework incrementally. A full implementation should not begin with a large audit burden. It should begin with high-risk incident response discipline and progressively develop measurement maturity.

Table 11. Practical roadmap for institutional adoption

Phase	Action	Output	Governance owner
Phase 1: Preparation	Map current incident response, reporting channels, communication approvals and review forums.	Current-state safety leadership map.	Safety head, risk head or designated executive sponsor.
Phase 2: Protocol design	Adapt the eight-stage model to sector-specific terminology and statutory requirements.	Sector-specific Safety Incident Trust-Preservation Protocol.	Cross-functional safety governance group.
Phase 3: Training and simulation	Train leaders through scenario exercises involving incomplete facts, affected-person communication and media pressure.	Simulation scores, learning notes and communication examples.	Training lead and safety governance group.
Phase 4: Pilot scoring	Apply SITPI to a limited number of anonymized near misses or simulation cases.	Pilot SITPI record with reliability notes.	Independent audit or quality team.
Phase 5: Learning loop	Share non-sensitive lessons, corrective closures and recurrence monitoring with teams.	Learning briefs and recurrence dashboard.	Operational leadership forum.
Phase 6: Scale and validate	Expand to multiple units and test reliability, validity and predictive relevance.	Validated instrument, comparative report and improvement plan.	Board/senior governance committee.

LIMITATIONS

This paper is conceptual and design-oriented. It does not claim that the proposed model or SITPI has been statistically validated. The case demonstrations are stylized and non-confidential; they are not field findings. The framework should therefore be treated as a testable architecture rather than an evidence-proven intervention.

A second limitation is cross-sector generality. The model deliberately identifies leadership functions common to healthcare, rail, aviation and emergency response. This breadth supports transferability but can reduce technical depth. Sector-specific annexures and expert validation are required before operational adoption.

A third limitation concerns measurement. SITPI may contain both formative and reflective dimensions. High internal consistency should not be pursued mechanically if dimensions represent distinct governance functions. The index requires careful psychometric and practical validation before benchmarking.

A fourth limitation is implementation dependency. Trust-preserving leadership cannot be achieved by forms alone. It requires visible non-retaliation, leadership restraint, technical competence, resource-backed corrective action and governance follow-through. Without these conditions, the framework may become symbolic.

CONCLUSION

Safety-critical systems depend on technical competence, but technical competence is not enough. A system becomes safer when people can report weak signals, when leaders contain before explaining, when facts are stabilized before blame, when affected persons receive humane information, when accountability is fair and when corrective action is verified. Trust is preserved not by protecting institutional image, but by demonstrating disciplined truthfulness and learning.

The revised Trust-Preserving Safety Leadership framework offers a cross-sector architecture for this discipline. It reframes near misses as early-warning intelligence, incident communication as a safety function and accountability as a fair learning process rather than a search for immediate blame. It also clarifies its relationship with established frameworks, provides practical case demonstrations and defines a validation pathway for SITPI.

The central conclusion is that a safety incident is not complete when the report is filed. It is complete only when life is protected, facts are preserved, people are treated with dignity, responsibility is fairly examined, corrective action is verified and learning returns to the culture that will face the next weak signal.

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