

OPERATING CASE STUDY / OPERATIONAL EXCELLENCE

Enterprise Data Issue Management

Turn a catalog of discrepancies into work that can be accepted and verified

An anonymized project case study of a data-issues register: consolidating fragmented escalations, distinguishing related defects, exposing missing commitments and defining how a remedy should be verified.

PROJECT CONTEXT / OPERATIONS, ANALYTICS & IMPLEMENTATION

BLUF / BOTTOM LINE UP FRONT

Make the issue actionable.
Verify that the remedy holds.

RECALCULATED FINDING

The register explicitly records no committed fix date for 55.74% of issues; other date entries are not validated commitments. Assigning every unknown first-raised year to the earlier year still leaves its share below a majority.

CONTRIBUTION IN THE SOURCE RECORD

Register design, stable references and evidence correction. Provisional hoop support. Other owners held remedies and commitments.

EVIDENCE STATUS

Registry-based design case; originals unrecovered. Sustained use, verified repairs and realized financial benefit are unestablished.

BLUF: analytical inference. Source contribution: historical record. Client and internal identities anonymized.

EXECUTIVE ABSTRACT

Convert known discrepancies into accepted remediation decisions

[AI] The register made dispersed data problems inspectable. Its value as an operating mechanism depends on linking each issue to an accepted next step and a repeatable test of resolution.

CONTEXT | Escalations were distributed across sources

[HR] Leadership requested a consolidated list of measurement discrepancies and commitments to fix them. The registered deliverable brought together local escalations and wider context, with sources, related-issue links, ownership fields and explicit gaps.

OBJECTIVE | Expose the work needed to make a metric usable

[PD] Give each in-scope issue a stable identity, an accountable next decision, an accepted milestone and an independent acceptance test. Distinguish correcting measurement from improving the underlying operation.

APPROACH | Make scope and uncertainty auditable

[HR] The author directed the register's structure, relationship tags and stable references; accepted source-based date corrections; and published missing commitments and inaccessible sources. [AI] These are artifact-design contributions, not evidence of defect repair.

FINDINGS | Marginal fields cannot establish an actionable issue

[RC] Explicitly uncommitted dates cover 55.74% of registered issues. Including context inflates the local issue count by 38.64%. The recorded earlier-year share cannot exceed 44.26% even if every unknown first-raised year is assigned there.

DECISION VALUE | Join ownership, commitment and acceptance

[PD] The COO should appoint a register maintainer and require issue owners to accept a next milestone. Grant remediation closure only after the agreed test passes and recurrence monitoring is assigned; validate the proposed mechanism prospectively.

IMPLICATIONS | Credit the register within its evidence boundary

[AI] Design, reconciliation and disclosure receive provisional registry-level hoop support. Identical copies do not prove absent follow-through elsewhere. The record does not establish sustained use, independently verified repairs or attributable savings.

S1: protected project register and calculation ledger. HR historical record; RC recalculated; AI analytical inference; PD proposed design. Recorded first-raised year is not actual defect onset.

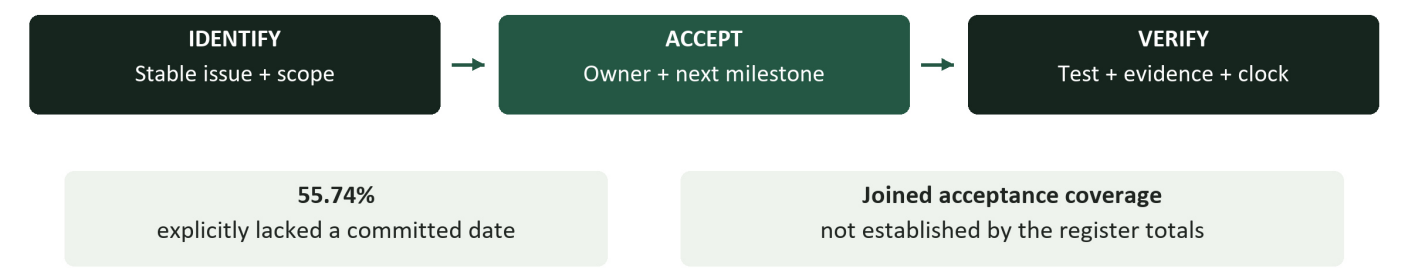
EXHIBIT 1 / ISSUE-LEVEL COMMITMENT

Require an accepted next step on the same issue before calling it actionable

[RC] The register explicitly labels 55.74% of issues as having no committed fix date. [AI] The remaining entries cannot be assumed to be valid, current commitments.

AN ACCEPTED COMMITMENT MUST JOIN ON THE SAME ISSUE

Proposed acceptance rule • marginal field counts cannot establish a complete commitment



A field that does not say “no date” may still contain a stale plan, status or conditional target.

[HR] Some remaining date cells concern planned milestones, historical status or already-passed dates. The source also reports separate ticket and executive-owner coverage. [AI] Those marginal counts do not show which issues have an accepted owner, a valid milestone and usable evidence together.

Decision requirement	Evidence that must join
[PD] Accepted next step	An accountable owner accepts a specific action or decision, its due point and the dependency that could block it. A populated field alone is insufficient.
[PD] Verifiable completion	A stable issue identity connects that commitment to the source defect, the affected decision and a repeatable acceptance test.

[AI] A formal ticket is one traceability route; executive escalation may be conditional. Neither is a universal substitute for ownership. Multiplying field-coverage percentages would invent a joint readiness rate and assume relationships the available evidence does not reveal.

COO DECISION

[PD] Review the joined issue record. Assign an owner to unresolved commitments and require acceptance of the next milestone before treating a date as a delivery promise.

[HR/RC/AI/PD] S1:M02/M03; E01/E02/E03. No row-level joint readiness estimate is established. The Issue-to-Remediation Contract is proposed, not measured historical adoption.

EXHIBIT 2 / MANDATE AND POPULATION

Separate local remediation obligations from wider contextual intelligence

[RC] With the local escalation count indexed to 100, the unfiltered register is 138.64. Counting every row as local workload would overstate that mandate by 38.64%.

KEEP LOCAL ACCOUNTABILITY SEPARATE FROM CONTEXT
Reported register populations • local escalation count indexed to 100



38.64% overstatement if contextual issues are counted as local escalations

Context supports dependency visibility; it does not transfer responsibility for the underlying defect.

[HR] The author retained broader program context but distinguished it with an explicit local-escalation flag. [AI] That was a useful scope decision: context can explain dependencies without transferring responsibility for every external program to the local operating team.

Population	Permitted interpretation
[HR/AI] Local escalation	An issue represented as part of the originating team’s escalation mandate. Validate its owner and current need; membership does not establish that team caused the defect.
[HR/AI] Wider context	A related program or exposure that informs decisions. Retain it for dependency awareness, with separate ownership and eligibility for local performance measures.

[AI] The same filter must govern counts, commitment coverage, aging and closure measures. A changed context mix can alter reported completion rates without changing any local issue. Workload planning requires effort and dependency information in addition to an issue count.

REGISTER OWNER ACTION

[PD] Freeze the mandate filter before publishing a headline. Keep contextual rows visible while preventing them from silently changing accountability, capacity estimates or success denominators.

[HR/RC/AI/PD] S1:D01/M01/E01/E12. Local count=100 is an internal count index. Scope design contribution: provisional registry-level hoop support; no measured workload saving is inferred.

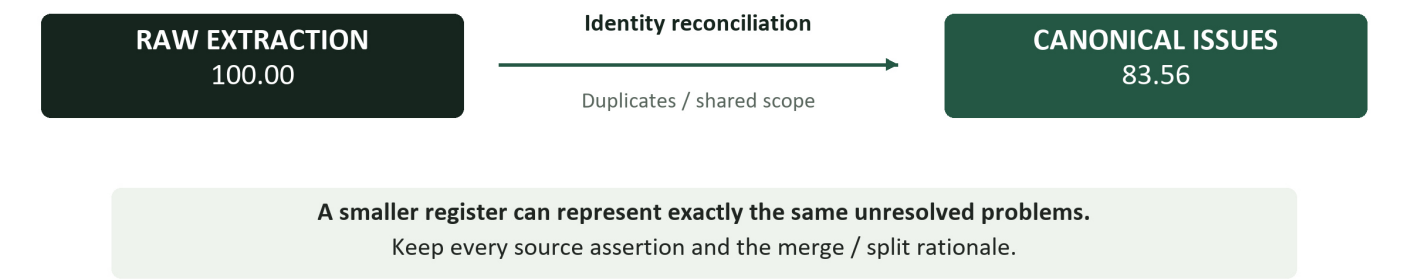
EXHIBIT 3 / CANONICAL ISSUE IDENTITY

Treat deduplication as a correction to identity, not a reduction in defects

[HR] The registered workflow consolidated raw candidates through duplicate and root-symptom rulings. [AI] A smaller canonical list is not evidence that less underlying work remains.

CANONICALIZATION CHANGES THE COUNTING UNIT

Reported artifact construction • raw extracted entries indexed to 100; no repair outcome implied



The 16.44% reduction in entries is a representation change, not a defect-reduction result.

[HR] The author replaced fragile row-number cross-references with stable ticket identifiers or descriptors so sorting and filtering would preserve meaning. [AI] Descriptors still need an identity crosswalk; two similar descriptions may concern different populations, mechanisms or versions.

Identity ruling	Required protection
[PD] Merge or split	Retain original references, the rationale, responsible adjudicator and affected scope. Preserve contested matches instead of silently discarding a distinct issue.
[PD] Longitudinal comparison	Map every version to frozen initial issue or remediation-family identities. A merge, rename or split must not create an apparent closure or new defect.

[HR] A weakly substantiated item was retained with a confirmation request. [AI] This supports uncertainty disclosure, not a guarantee that the register captured every defect. Missing source access can leave both false duplicates and unrecognized relationships unresolved.

ANALYTICAL STANDARD

[PD] Report identity reconciliation separately from remediation. Keep a reversible mapping from source candidates to canonical records so an independent reviewer can challenge each consolidation.

[HR/AI/PD] S1:D02/D03/E01/E04/E09. Stable-reference and reconciliation design: provisional registry-level hoop support. No raw-candidate decline is presented as operating improvement.

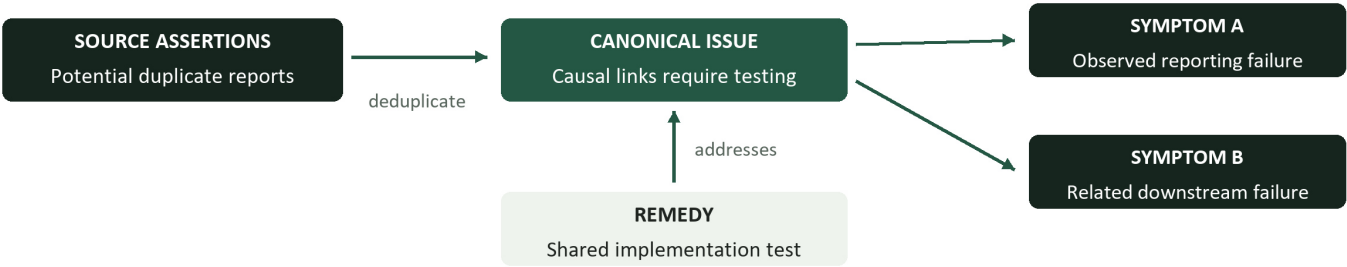
EXHIBIT 4 / REMEDIATION FAMILIES AND EXPOSURE

Prioritize distinct remedies before adding overlapping exposures

[HR] The register distinguishes duplicates, root–symptom links, umbrella relationships, related families and fixes. [AI] These relationships should change the decision unit before they change the investment ranking.

MODEL DEPENDENCIES BEFORE ADDING EXPOSURES

Illustrative candidate links • identity reconciliation does not establish a cause or remedy



Different owners, periods, overlaps and reattributions prevent a defensible sum of listed exposures.

[HR] Some entries describe measurement reattribution; others concern customer-facing defects, missing visibility or programs already owned elsewhere. Reported financial figures also mix periods and value types. [AI] Their sum would not be a verified opportunity for this register.

Relationship	Decision consequence
[PD] Shared remedy	Group issues only when one accepted change can address their distinct acceptance tests. A common source or similar symptom does not prove a common cause.
[PD] Shared exposure	Identify the affected population, period and consequence before valuation. Keep reattribution, avoidable resource burden and actual customer harm separate.

[AI] Resolving an upstream defect can affect several rows; fixing one symptom may leave its root unchanged. Counting each row as an independent benefit creates overlap, while collapsing every related row can hide unresolved requirements. The relationship type determines the appropriate treatment.

PORTFOLIO DECISION

[PD] Rank evidence-backed remediation families by consequence, feasibility and dependencies. Price each unique consequence once, and retain separate tests for every affected requirement.

[HR/AI/PD] S1:D03/E01/E06/E07/E13; M06–M17. Relationship tags are registered analytic judgments, not identified causal mechanisms. No historical exposure total or register benefit is claimed.

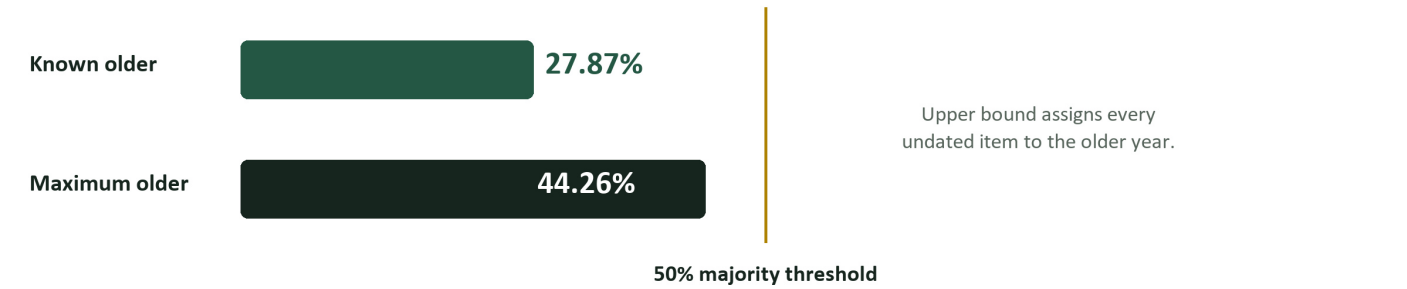
EXHIBIT 5 / RECORDED AGE AND COMMITMENT CLOCKS

Correct the age narrative without converting a recorded date into defect onset

[RC] The earlier reporting year accounts for 27.87% of recorded first-raised classifications. Assigning every undated row there raises that share only to 44.26%, below a majority.

THE REGISTER CANNOT SUPPORT A MAJORITY-OLDER CLAIM

Recorded first-raised-year classification • denominator is the complete register; not defect onset



Ticketed subsets and the whole register have different age distributions; neither measures defect onset.

[HR] The author accepted corrections to remembered dates using source timestamps. [AI] That correction is material, but the source’s broad claim that most issues were raised in the earlier year does not hold for the whole delivered register under its recorded partition.

Clock	What it establishes
[HR/AI] First recorded raising	The dated evidence associated with discovery or escalation. A ticket creation timestamp may postdate informal discovery or the defect’s actual onset.
[PD] Commitment and verification	The accepted next milestone, due point and acceptance-test date. These measure accountability and resolution evidence, not how long the defect has existed.

[AI] The upper bound tests the recorded-year narrative, not the true age of every underlying defect. Severity and current exposure still matter: an older low-consequence issue need not outrank a new defect that corrupts a critical decision. Missing dates should remain explicit.

PRIORITIZATION RULE

[PD] Use source-based chronology for auditability. Combine it with current consequence and dependency evidence; do not let a memorable age narrative substitute for the actual register profile.

[HR/RC/AI/PD] S1:M05/D04/E01–E04. Bound assumes the source’s recorded-year partition; unknown rows are assigned to the earlier category for sensitivity. Date correction: provisional registry-level hoop support.

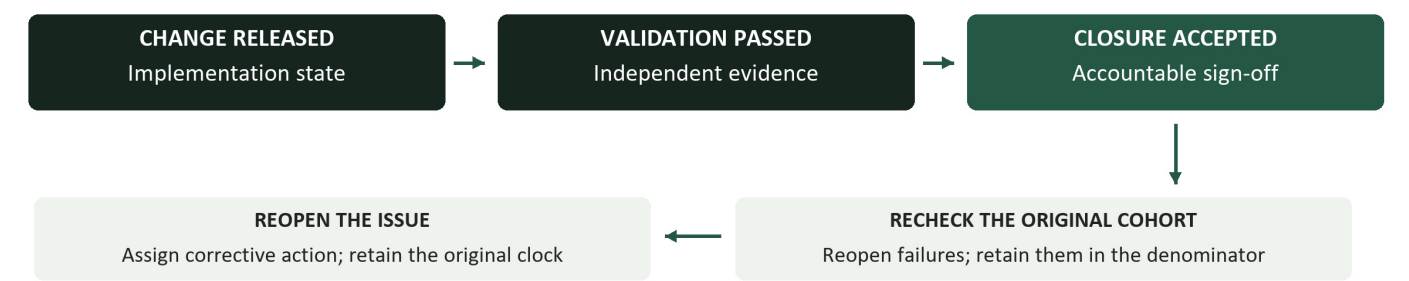
EXHIBIT 6 / DURABLE ACCEPTANCE

Close the operator’s problem only after the agreed remedy survives verification

[HR] Registered examples include administrative closure, a working-as-designed verdict, partial remediation and a reported correction followed by recurrence. [AI] These states do not mean the same thing.

RESOLUTION REQUIRES A TEST THAT SURVIVES RECHECK

Proposed assurance sequence • administrative closure and deployment are not validated repair



An unchanged local copy establishes no downstream history; seek acceptance and verification records.

Recorded state	Required interpretation
[HR/AI] Closed or deployed	A workflow status or release event. It does not by itself prove the relevant business requirement is satisfied across the affected population.
[PD] Verified and durable	The prespecified acceptance test passes on independently selected cases, with a defined recurrence window and a rule for reopening the original issue family.

[HR] The registry describes an in-scope classification problem, raised before the artifact, as absent from its issue list. [AI] This challenges documented coverage. It does not establish an exhaustive omission count or give the register’s author ownership of the fix.

[AI] A technically intended behavior can still fail the operator’s need. Resolve that mismatch through an explicit requirement decision. A mapping correction or reassignment can improve measurement without reducing the physical customer defect.

REMEDY OWNER ACTION

[PD] Define the business acceptance test before making the change. Retain partial resolution, approved requirement changes and recurrence as separate states; reopen on failed independent checks.

[HR/AI/PD] S1:D09/D10/E03/E05/E08. These are registered examples, not a measured failure rate. Attribution for underlying corrections remains with their responsible programs, not the register author.

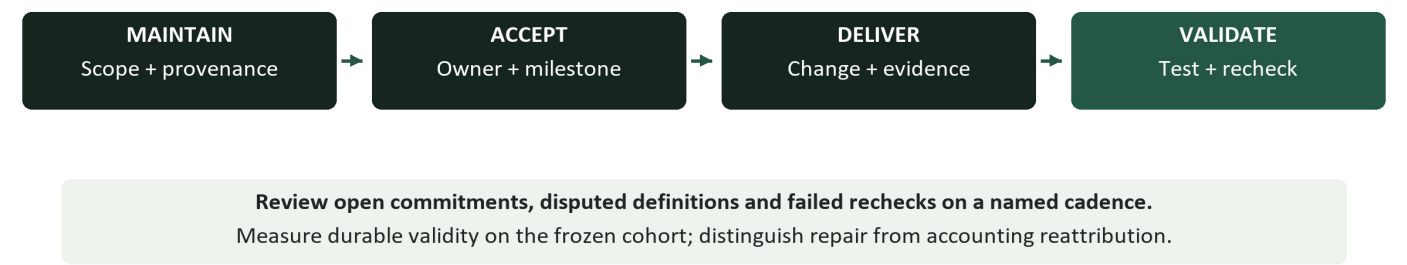
EXHIBIT 7 / ISSUE-TO-REMEDiation CONTRACT

Give every unresolved issue an owner, a next decision and a test of closure

[PD] The Issue-to-Remediation Contract connects the register to execution while preserving the distinction between a completed artifact and a resolved data problem.

THE ISSUE-TO-REMEDiation CONTRACT CONNECTS OWNERSHIP TO PROOF

Proposed operating mechanism • a register becomes useful through accountable review and revalidation



The author designed the register; defect owners must accept and verify the remedies.

Accountable role	Operating commitment
[PD] Register maintainer	Maintain stable issue and family identities, scope, source access and review dates. Preserve revision history.
[PD] Remediation owner	Accept the next milestone, dependency and business requirement. Escalate constraints through a named authority when a commitment cannot be made.
[PD] Independent verifier	Test the change against the frozen requirement and eligible population. Monitor recurrence and reopen the original family when the remedy does not hold.

[HR] The record describes a reusable build and matching workbook copies. [AI] Content identity is not proof that nobody acted, refreshed another system or fixed a defect elsewhere. Sustained use requires review and acceptance evidence beyond the copies.

[PD] Evaluate fixed remediation families with independent validity checks. Retain recurrences, changed definitions and missing checks; closed-row counts are not verified repairs.

COO AUTHORIZATION

[PD] Appoint the maintainer and acceptance authority. Test verified remediation before booking a benefit.

[HR/AI/PD] Proposed IRC informed by S1:E01–E13. Artifact contribution has provisional registry-level hoop support. Maintenance, deployment and outcome effects require separate evidence.

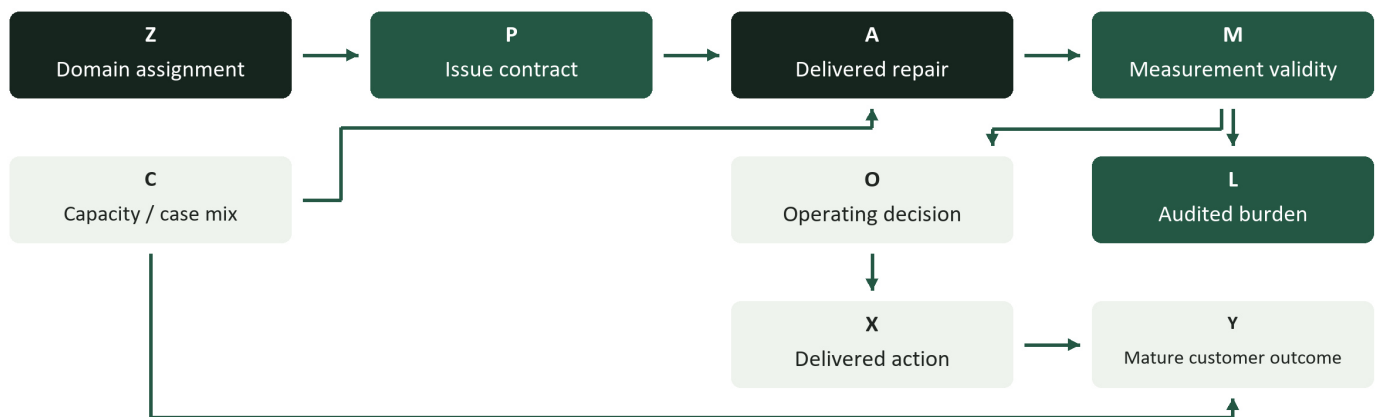
TECHNICAL FOUNDATION • THEORY OF CHANGE

The register changes visibility before it changes the operation

[PD] The Issue-to-Remediation Contract (IRC) connects canonical defect identity, source lineage, accepted ownership, a committed intervention and independent validation. It is a proposed operating contract.

SEPARATE THE REGISTER FROM THE REPAIR

Proposed DAG • randomized remediation governance • no historical causal effect



Selection layer: underlying defect D → M, R; source access S → registered issue R → P.

Other paths: common platforms C → M; repair A may affect Y directly; audit quality Q → observed L.

Estimate Z → L by assigned domain; P → incremental cost K is separate from ordinary handling burden.

Customer path M → O → X → Y is proposed and untested. Stable IDs do not prove any causal edge.

[PD] Underlying defect D affects measurement validity M and the evidence entering registered issue R. Source accessibility S selects which defects become visible. Randomized domain assignment Z changes contract P, which may change delivered repair A and then M. Independent repeated audits produce failed-validation burden L.

[PD] Capacity, issue complexity, demand and shared platforms C affect A, M and mature customer outcome Y. Measurement quality can affect operating decision O, delivered operational action X and Y; some repairs can also affect Y directly. Audit quality Q changes observed L. These customer paths are not identified by a register or by the proposed primary audit endpoint.

[AI] A decline in rows can occur through duplicate consolidation with no change in D or M. A favorable attributed metric can reflect a category transfer without changing Y. A stable document can coexist with external remediation. These alternative paths explain why counting register changes does not identify operating effects.

[PD] Estimate assignment-to-burden intention-to-treat without conditioning on owner acceptance, delivered repair or successful closure. Those are post-assignment mediators. Incremental governance, repair delivery and verification costs are accounted separately.

Proposed DAG; arrows are mechanisms to test. S1 describes the artifact and upstream issues, not an identified register-to-customer effect.

TECHNICAL FOUNDATION • CANONICAL IDENTITY

Duplicate identity is different from common cause or common remedy

[AI] Canonicalization should reduce repeated descriptions while preserving distinct failure mechanisms. A shared label or owner cannot establish that two reports concern the same defect.

Relationship	What must be preserved
Duplicate	[PD] Same defect, population, mechanism and source episode. Preserve every report as evidence linked to one persistent issue identity.
Root / symptom	[PD] A hypothesized causal dependency. Keep both nodes and the evidence for the edge; do not erase the symptom or count it as independent benefit.
Family / umbrella	[PD] Shared domain or program grouping, not equivalence. Distinct acceptance tests may remain necessary.
Fix coverage	[PD] Explicit intervention-to-defect mapping. One fix may cover several defects; one defect may need several complementary fixes.

[HR] The source describes overlapping reports consolidated into a theme-grouped register, with typed relationships and stable references replacing row-number links. This supports a design decision; it does not independently validate every merge or causal edge.

[PD] Give reports, canonical defects, proposed fixes and document versions separate identifiers. Retain a reversible merge/split log, disputed matches and source citations. Sorting must not change relationships. Repeated text from one origin remains one evidence lineage.

[AI] Fellegi–Sunter formalizes match, nonmatch and uncertain-link decisions under error constraints. Its duplicate-linkage logic does not establish causal root identity. W3C provenance expresses derivation and revision; a valid provenance graph does not prove a diagnosis correct.

[PD] Validate wrong merges and missed duplicates separately. A smaller canonical count is an administrative compression statistic until an independent test establishes what information was preserved.

S1: canonicalization and stable-ID design. Fellegi–Sunter 1969; W3C PROV-DM. No probabilistic linkage algorithm is claimed to have been implemented.

Field completeness cannot establish joint remediation readiness

[AI] A ticket, executive name and date are different candidate traceability fields. Marginal completeness percentages do not reveal which issues satisfy a chosen joint screen.

Metric	Validity contract
Captured issue count	[PD] Freeze source frame, canonical unit, context-versus-local scope and version. Captured does not mean exhaustive or independently confirmed.
Ticket presence	[PD] Separate syntactic link, accessible ticket, matching defect and verified current status. A working URL is not an accepted remediation commitment.
Ownership	[PD] Distinguish analyst, escalation sponsor, repair implementer and acceptance authority. A populated name is not documented acceptance or capacity.
Committed date	[PD] Distinguish missing, stale, proposed, accepted and met dates. A passed deadline cannot be treated as future delivery certainty.
Verified repair	[PD] Fixed business requirement, held-out reproduction and recurring independent checks. Administrative closure alone is insufficient.

[RC] The available marginal counts bound a chosen joint screen between zero and a small minority of the registered population; they do not yield an observed readiness rate. Ticketing is one traceability route; executive escalation is conditional. The private calculation retains set-intersection bounds and alternative ticket-verification interpretation.

[PD] Compute actual intersection only from authenticated row-level values and semantics. For ticket set T, owner set O and date set E in a fixed universe N, $\max(0, |T| + |O| + |E| - 2N) \leq |T \cap O \cap E| \leq \min(|T|, |O|, |E|)$. Even membership in all three remains insufficient without accepted scope and validation.

[AI] Publishing blanks made uncertainty visible. It did not complete the commitments the original ask requested. Measure disclosure quality and remediation readiness separately.

S1/private counts and semantics; recalculated intersection bounds. The original row-level workbook has not been recovered in this pass.

An accessible-source register cannot certify total defect coverage

[AI] Unreachable channels can contain systematically different defects. Access failures therefore constrain the population that the register describes, not merely the confidence attached to individual rows.

[HR] The deliverable discloses unavailable source families and open reconciliation work. An additional material mapping issue appears in the broader evidence but not the shipped register. The registry describes a specific coverage omission; it does not measure the number of all omitted defects.

Selection or classification risk	Required check
Unequal source access	[PD] Record eligible channels, attempted retrievals, permissions, success and cutoff. Audit inaccessible-channel samples through authorized owners; do not assume missing at random.
Root-versus-symptom taxonomy	[PD] Independent mechanism coding against source evidence, with uncertain relation retained. Similar phrasing and shared ownership cannot substitute for causal verification.
Severity and exposure	[PD] Freeze severity criteria, period, population and consequence unit. Separate high customer harm from high attribution visibility.
Date provenance	[PD] Use source event/create time for first raised; retain extraction and modification time separately. Unknown dates stay unknown.

[PD] Proposed reliability pilot: 200 candidate report-pairs, stratified by proposed duplicate, causal relation, unrelated and unresolved categories; two blinded coders before adjudication. Sample size is a starting precision budget, not a powered validity claim. Report class prevalence, confusion matrix, raw agreement and nominal kappa with cluster-bootstrap intervals by source family.

[PD] Oversample ambiguous and cross-domain pairs, retaining selection weights. External source validation tests correctness; coder agreement tests reliability. Do not infer completeness from the proportion of accessible reports that agree.

[AI] Source access and issue age may affect prioritization. Both need explicit missing-data sensitivity before applying this register to a broader operational population.

S1: published gaps and omitted mapping issue. Wang–Strong fitness for use and Fellegi–Sunter uncertain linkage motivate the measurement contract.

TECHNICAL FOUNDATION · EXPOSURE & PORTFOLIO

A dependency map is required before sizing a remediation portfolio

[AI] The register carries exposures from different programs, periods, populations and accounting constructs. Adding them would create a total with no defensible estimand.

Quantity carried in a register	Permitted interpretation
Customer defect loss	[PD] Unique eligible events, mature window and incremental avoidable cost. Validate overlap at event or cohort level.
Attribution transfer	[PD] Movement between owners or categories. An owner’s metric can improve while total customer loss remains unchanged.
Annualized opportunity	[PD] Model conditional on future scale and effect. Do not combine with cumulative realized amounts as if they share a horizon.
Gross charges / program targets	[PD] Exposure or ambition, not a causal benefit available to the register author.
Operational workarounds	[PD] Price incremental handling time and recurrence independently; neither a ticket count nor headline exposure measures this burden.

[PD] Build a bipartite map from proposed remedies to validated defect families, then to affected event sets. Deduplicate the union of covered events; model interactions where two remedies are substitutes or complements. Root labels alone cannot determine benefit overlap.

[AI] Even an exact duplicate-report ruling is weaker than a claim that one engineering change solves both issues. Conversely, distinct symptoms can share a repair. The intervention portfolio therefore needs its own coverage test after issue canonicalization.

[PD] Keep four ledgers: source exposure, intervention effect, accounting realization and exclusive credit. A customer-benefit model requires mature causal reduction × eligible volume × avoidable cost × nonoverlap, minus incremental cost. Those inputs are not established here.

[HR] The register itself did not claim a summed financial benefit. Preserve that discipline when converting the artifact into a portfolio case.

S1: nonadditive source exposures and sibling-program boundaries. Proposed event-level accounting protocol; no historical financial benefit assigned to IRC.

TECHNICAL FOUNDATION • VARIATION & SELECTION

A measurement regime change can contaminate its own control limits

[RC] The private audit retains eight actual/context sequences, two phase sensitivities and six mechanical screens. None establishes an invariant operating phase or a tracker-caused performance effect.

[PD] For suitable ordered individuals, $MR_t = |x_t - x_{t-1}|$; tentative individual limits are $\text{mean}(x) \pm 2.66 \text{ mean}(MR)$, and the MR upper limit is $3.268 \text{ mean}(MR)$. Check rational subgroup, interval, phase, autocorrelation and construct before classifying movement.

[RC] In the mapping example, the incident is extreme against the short pre-incident screen but falls inside limits recomputed after pooling the changed regime. This is an arithmetic consequence of contamination; the tiny baseline does not establish a calibrated false-alarm probability.

[AI] Treat the discontinuity as a measurement investigation, not evidence that operations suddenly deteriorated or that the later register repaired them. The observed series predate the artifact and concern another owner’s mapping process.

Selection question	Decision boundary
Recorded date cohort	[RC] Assigning every undated issue to the earlier recorded-year group still leaves that group below half of the captured population. A recorded-year majority is ruled out; true onset dates remain uncertain.
Worst-N operating units	[AI] No fixed worst-N treatment cohort or untreated follow-up panel is supplied for this project. A selected escalation list is not that design.
Future severity ranking	[PD] Freeze selection before follow-up. Under equal-variance untreated reliability p , initial excess indexed 100 becomes expected $100p$; at $p=.25/.50/.75$ the mechanical reversion is 75/50/25.

[PD] This regression-to-the-mean grid is hypothetical, not an estimated correction. No eligible repeated binary count/denominator panel supports Laney p' . Do not manufacture exposure counts from rounded rates.

S1/private source screens and phase sensitivities; NIST XmR conventions. Hypothetical selection sensitivity only; mapping observations do not estimate register impact.

Artifact ownership does not transfer ownership of every underlying fix

[HR] The source assigns the author responsibility for scope, structure, source reconciliation, stable references and delivery. It explicitly assigns underlying defects, fixes and dates to other owners.

Personal contribution	Process-tracing grade
Scoped and delivered the register	[HR] Provisional hoop: the recorded ask and design decisions support artifact ownership; original workbook and contemporaneous request are not recovered in this pass.
Corrected dates / stable references	[HR] Provisional hoop: source descriptions identify the author’s design choices and acceptance of corrections. Repeated metadata is not independent corroboration.
Obtained repair commitments	[AI] Unestablished. Populated fields and request routing do not prove accepted dates, funded work or implementation.
Delivered customer / cash gains	[AI] Unestablished for this register. Source outcomes belong to separately owned programs; neither proximity nor aggregation transfers their credit.

[AI] No smoking-gun or doubly decisive role test is claimed from a registry alone. A copied artifact can support a version comparison when hashes are independently reproduced, but it cannot establish who reviewed it or whether another system was maintained.

[HR] The register describes matching copies and no evidenced refresh or closure of its open actions. The warranted conclusion is absence of demonstrated follow-through in this evidence set. It is not proof that no remediation, adoption or external tracking occurred.

[PD] A durable register needs an accepted review cadence, persistent issue identity, owner acknowledgment, delivery receipt and independent recurrence checks. Appoint separate artifact custodian and remedy authority. They may collaborate without owning the same causal contribution.

[AI] Recognizing these boundaries strengthens the case: it shows an operator distinguishing what was delivered from what the organization still had to execute.

S1: explicit role limits, copied-version claim and open actions. Collier-style process tracing; source originality and external maintenance remain unresolved.

TECHNICAL FOUNDATION • PROSPECTIVE ESTIMAND

Test whether accepted issue contracts reduce repeated validation failures

[PD] Randomize independent remediation domains to IRC or the usual register, with delayed start after the primary horizon for controls. Freeze confirmed defect families and acceptance tests before assignment.

Design element	Preregistered contract
Primary ITT	[PD] Equal-domain usual-minus-IRC mean failed independent checks per original family across 12 weekly audits through day 84. Lower burden is beneficial.
Eligibility / weights	[PD] Initially confirmed unresolved measurement defects; fixed equal family weights within equal-size domains. Preserve original identities after merging, splitting or withdrawal.
Treatment package	[PD] Accepted root/fix owner, explicit dependency map, committed remedy scope, escalation cadence and recurrent validation. Assignment is not completed delivery.
Repeated endpoint	[PD] All originally scheduled checks, including closed and reopened issues. Fixed business requirements prevent metric relabeling from masquerading as repair.
Independence	[PD] Cluster shared remedy, capacity and platform dependencies together. If a platform-wide fix links arms, redesign rather than assume independence.

[PD] Baseline replication confirms eligibility. Identical blinded research audits in both arms withhold routine findings until day 84; log symmetric urgent-harm exceptions. This tests IRC within a common audited environment. Unknown reference outcomes retain fail/pass bounds and the original denominator.

[PD] Estimate assigned-policy effects, report delivery fidelity separately and predeclare domain/node/severity moderators. Do not adjust total effects for post-treatment owner acceptance or repair completion.

[PD] The planning minimum requires an expanded portfolio: this register does not supply the independent eligible domains. If recruitment fails, redesign horizon, endpoint or costs and re-power, or leave the investment test unresolved. Correlated extra rows cannot replace domains. Customer effects require separate endpoints and power.

Proposed randomized delayed-start design, with simultaneous concurrent controls through day 84. Markov transitions, domain availability and cost inputs are hypothetical.

The Issue-to-Remediation Contract has four falsifiable propositions

[PD] IRC joins persistent identity, typed dependency, accepted commitment and repeated semantic validation. It is a proposed extension from issue visibility to verifiable remediation.

Proposition	Mechanism, boundary and disconfirmation
P1 • Identity preservation	[PD] Reversible canonicalization reduces duplicate investigation without increasing missed distinct defects. More false merges or suppressed eligible families contradict the claim.
P2 • Dependency-aware ownership	[PD] Assigning accepted remedy authority at the root/fix dependency level reduces repeated validation failures. No gain is expected where funding or implementation authority remains unavailable.
P3 • Recurrence-aware acceptance	[PD] Independent post-closure validation detects regressions that administrative closure misses. Higher false-pass rates or unmanageable validation burden breach the mechanism’s guardrails.
P4 • Economic sufficiency	[PD] The causal burden reduction covers incremental governance, remedy and verification cost. A lower interval endpoint above break-even supports scale; an upper endpoint below contradicts sufficiency.

[AI] Wang–Strong makes fitness for use broader than accuracy: accessibility and interpretation matter to the consumer. This case adds a distinction between visibility of a defect and authority to repair it; it does not estimate the literature’s effects.

[AI] Tucker–Edmondson and Tucker’s operational-failure work explain why local compensation can coexist with unresolved cross-boundary causes. The register can make those causes discussable; ownership and implementation still need separate evidence.

[AI] Fellegi–Sunter motivates uncertain identity decisions; W3C provenance motivates versioned lineage. Neither proves a causal root or repair. Those claims require intervention-specific tests.

[PD] An inconclusive interval does not refute a proposition. Each mechanism needs its own measurement and safety test; primary burden power does not certify every component or customer outcome.

Primary literature motivates testable boundaries, not an external validation or ranking of IRC. Component claims remain proposed.

TECHNICAL FOUNDATION · LIMITATIONS & REPRODUCTION

Publish the denominator and the evidence boundary with every conclusion

[AI] This is a measurement-governance design and evidence-reconciliation case. The register makes a fragmented problem visible; the available evidence does not identify its remediation or customer effect.

Boundary	Consequence for use
Original evidence	[AI] Source artifacts were not recovered in this pass. Register quotations and metadata are traceable leads, not independently authenticated workbook rows.
Coverage / joint readiness	[AI] Inaccessible sources and absent joint row data prevent exhaustive coverage and observed commitment-intersection estimates. Marginal bounds are not a readiness census.
Measurement regime	[AI] Mapping changes, point-in-time sources and inconsistent populations prevent a single stable historical outcome series.
Ownership / sustainability	[AI] Artifact authorship is bounded; unchanged copies do not prove no work elsewhere. Sibling-program benefits remain separate.
Prospective transport	[PD] Transition probabilities, latent domain types, constant costs and available clusters are hypothetical. Wrong merges, audit errors or spillovers can defeat the design.

[PD] Reproduce the frozen source-selection ledger and arithmetic before the proposed model. Retain raw values, original locators, source conflicts, canonical links, merge decisions and identity mapping privately. Run the exact state-reward recursion, Student integration and independently seeded full-process simulations.

[PD] Public metrics use relative/indexed or qualitative disclosure. Do not publish counts alongside percentages that reconstruct protected denominators. Keep client identities, people, systems, dates and internal links outside the public artifact.

[AI] The new interpretation is a unit-of-analysis correction: reports, defects, root causes, remedies and benefits are distinct objects. Moving between them requires validated relationships. A well-organized issue register can therefore be valuable while neither proving repair completion nor supporting a total savings figure.

Consolidated limitations constrain every historical and prospective claim. Author/agent-assisted checks validate stated calculations and presentation, not unavailable originals.

PROPOSED DECISION MODEL · REPAIR & RECURRENCE

Keep checking the original defects after tickets close

[PD] Randomize independent remediation domains to the Issue-to-Remediation Contract or usual register. Controls receive the contract after the primary horizon. Every input below is synthetic.

Planning parameter	Usual register	IRC
Weekly repair probability	0.10	0.17
Weekly relapse probability	0.10	0.05
Initial state	Failed validation	Failed validation

[PD] Each domain contains 8 frozen eligible defect families. Conduct independent semantic validation at 12 original weekly audit dates through day 84. Sum failed checks per family, then average within domains. Continue checks after closure; a reopened defect re-enters the burden. This is audit-period burden, not continuous defect-days.

[PD] Half the hypothetical domains are harder: repair probability decreases by 0.04 and relapse increases by 0.015. Easier domains have opposite shifts. Families are independent conditional on domain type; repeated checks follow the repair/relapse Markov chain.

[PD] Exact state-reward calculation gives usual mean 7.9586 failed checks and IRC mean 5.4067. With usual burden=100, the assumed reduction is 32.065 points. These are planning consequences of the stated transition model, not observed repairs.

[PD] Freeze requirements and dependencies; preserve eligibility after merges or splits. Identical blinded research audits in both arms withhold routine findings until day 84; apply and log a symmetric urgent-harm exception. IRC production verification remains separate and costed. A label, filter or ticket status alone cannot establish repair.

Wholly synthetic recurring-state design; independently randomized domains, no within-horizon crossover. Equal-family/domain weights do not imply shipment-weighted impact.

PROPOSED DECISION MODEL · DESIGN-SPECIFIC POWER

Shared remediation constraints determine how many domains are needed

[PD] Exact Markov moments retain serial dependence; shared domain difficulty creates cross-family correlation. More issue rows do not create more independent remedy capacity.

[PD] Domain-mean variance= $\text{Var}(E[B \mid F]) + E(\text{Var}[B \mid F]) / m$. Balanced arms use $SE = \sqrt{(V_0 + V_1) / n}$, Student $df = 2n - 2$. MDE follows $p(\lambda) = .10 + .07\lambda$, $q(\lambda) = .10 - .05\lambda$ with effect-specific variance; $\lambda = 0$ is null and $\lambda = 1$ the main scenario.

Per arm / total	MDE, 80%	P(lower>BE)	Joint gate
46 / 92	13.844	99.6%	Fail
92 / 184	9.771	>99.9%	Pass
112 / 224	8.854	>99.9%	Pass

[PD] Two-sided alpha 0.05; require $MDE \leq 9.8039$ and at least 80% chance the lower two-sided 95% interval exceeds that break-even, under the assumed 32.065-point effect. Minimum: 184 independent domains. The 224-domain candidate adds a conditional buffer; available domains are unknown.

[PD] In 12,000 simulated trials per scenario, null rejection is 4.84% and rejection at break-even is 80.02%. All full-effect trials clear the economic gate; its Wilson 95% lower bound is 99.968%, not certainty.

[PD] Pilot transitions, recurrence, domain dependence and independent false-pass rates. Shared engineers or platform-wide fixes breach independence; cluster higher or redesign. Missing reference checks require bounds. Guardrails and customer outcomes need separate sizing; primary clearance alone does not authorize deployment.

Prospective conditional planning only. Domain totals are hypothetical recruitment requirements, not the source register footprint.

PROPOSED DECISION MODEL · ECONOMIC BOUNDARY

Price the same measurement burden that the trial estimates

[PD] Net resource value= $100r \times a \times q - K$. Gross ordinary handling burden=100; avoidable share $a=0.60$; exclusive share $q=0.85$; incremental $K=5$. Break-even is 9.8039% of reference burden.

Burden reduction r	a=0.30	a=0.60	a=0.90
10%	-2.45	0.10	2.65
20%	0.10	5.20	10.30
30%	2.65	10.30	17.95

Domain difficulty spread	4 families	8 families	16 families
Lower	210	118	72
Base	272	184	140
Higher	372	294	254

[PD] First grid: net resource value at $q=0.85$, $K=5$. Second: minimum total domains; repair/relapse difficulty shifts are half/base/1.5×. Base assumed net value=11.353. The 224-domain buffer fails under higher spread; extra families cannot remove shared-domain variance.

[PD] K includes governance 2, incremental remedy delivery 2 and production verification 1, allocated to the same original-family, 84-day pool. Study-only research adjudication is budgeted separately. Avoidability removes nonreleasable work; exclusive credit removes benefits counted elsewhere. Neither factor changes the causal estimand.

[PD] Translation assumes constant expected handling cost per failed audit-period and no severity-mix shift. Otherwise use a cost-weighted endpoint and re-power. Capacity release is not cash. Historical customer exposures, reattribution and other programs’ savings do not enter this model.

Synthetic sensitivity, not confidence intervals. Equal-family effectiveness cannot be applied to a shipment-weighted customer-loss pool without new evidence.

PROPOSED DECISION MODEL · VALUE OF INFORMATION

Resolve common-cause uncertainty before combining remedies

[PD] In a restricted hypothetical triage, the prior probability that one repair covers two issues is 0.55; otherwise two separate repairs are required. Similar wording does not establish the state.

Decision	Common repair	Separate repairs
One shared remediation	10	-18
Two separate remediations	-6	12
Hold for scoped diagnosis	3	3

[PD] Payoffs include remedy costs. A scoped diagnostic supplies a binary signal with equal sensitivity and specificity at the stated accuracy. Choose the action maximizing posterior expected utility; subtract diagnostic acquisition cost separately.

Diagnostic accuracy	EVSI	Study cost	Net EVSI
60%	0.450	0.500	-0.050
80%	3.440	1.500	1.940
95%	6.785	3.000	3.785

[PD] $EVSI = E[\max_a E(U_a | \text{signal})] - \max_a E(U_a)$. Perfect information is worth 7.900; every scenario respects that ceiling. The prior-optimal action is a scoped hold, not an assumed consolidation.

[PD] This decision model is independent of the trial’s assumed remediation effect. Expand it for partial overlap, conflicting fixes and multiple causes before use. No historical diagnostic saving is claimed. Do not add this value to operating benefits when both price the same avoided consequence.

Wholly synthetic information-acquisition decision. Duplicate identity, common cause and joint repair coverage are different propositions.

Read the register as a designed accountability artifact

[AI] A useful issue register makes a discrepancy traceable and assignable. Its completion does not establish that an owner accepted the remedy, the data became valid or the underlying operation improved.

Claim class	Meaning in this case
[HR] Historical record	A protected project-register representation of the workbook, related sources or contribution. Original files remain unrecovered. Repeated source summaries do not supply independent authentication.
[RC] Recalculated	Arithmetic from registered counts, scope and recorded-year categories, or an explicitly synthetic planning model. A canonical count is not a measured defect or customer-impact count.
[AI] Analytical inference	A bounded interpretation of identity, commitments, maintenance or resolution. A missing commitment field is observable in the register; remediation elsewhere remains unobserved.
[PD] Proposed design	The Issue-to-Remediation Contract, prospective repair-and-recurrence test and hypothetical resource economics. None is an observed benefit of the historical tracker.

[RC] The explicit no-date share is 55.74%; its complement does not establish accepted commitments. The earlier recorded-year share remains below a majority even under the maximum allocation of undated rows. [AI] Neither result estimates the true age or current validity of every defect.

[AI] Positive contribution rests on the register’s structure, stable references, relationship rulings, source-based corrections and visible coverage gaps. Those claims have provisional registry-level hoop support; remedy ownership and sustained use require different evidence.

[PD] Reproduce calculations from the frozen extract, cell-linked ledger, source-recovery log and code. Available identity rules cannot replace the unrecovered candidate-to-canonical crosswalk; recover it before independently reproducing consolidation. Synthetic parameters are not historical estimates.

DISTRIBUTION

[PD] Share this anonymized case. Retain raw counts, identities, source paths, mappings and the reproducibility annex privately.

S1: protected evidence register and calculation ledger. Historical numbers are shares or indices; prospective calculations carry a separate, wholly synthetic decision contract.

REFERENCES / PRIMARY METHODS AND SUBSTANTIVE LITERATURE

Define the issue, the evidence and the business requirement

These sources inform issue identity, measurement validity and the proposed test. They do not authenticate the original tracker or establish its adoption, defect remediation or business impact.

Wang, R. Y., & Strong, D. M. (1996). Beyond Accuracy: What Data Quality Means to Data Consumers. *Journal of Management Information Systems*, 12(4), 5–33. Full original article. Data quality includes contextual fitness, representation and accessibility. A technically intended metric can still fail its operator's decision requirement.

Fellegi, I. P., & Sunter, A. B. (1969). A Theory for Record Linkage. *Journal of the American Statistical Association*, 64(328), 1183–1210. Authorized original reprint. Matching, nonmatching and uncertain pairs require explicit evidence and error control. Identity linkage does not establish a common causal root or a shared remedy.

W3C (2013). PROV-DM: The PROV Data Model. Official recommendation. Entities, activities, agents and derivations make provenance inspectable. An identical copy or a documented revision establishes a lineage relationship, not whether a defect was repaired or an owner acted elsewhere.

Tucker, A. L., & Edmondson, A. C. (2003). Why Hospitals Don't Learn from Failures: Organizational and Psychological Dynamics That Inhibit System Change. *California Management Review*, 45(2), 55–72. Full original article. Compensating for a local failure differs from changing its underlying system; the contract preserves that distinction in closure decisions.

Tucker, A. L. (2004). The Impact of Operational Failures on Hospital Nurses and Their Patients. *Journal of Operations Management*, 22, 151–169. Publisher abstract. Operational failures can create compensating work across boundaries. Here, handling burden is a proposed measurable endpoint; the article's observed setting or effects are not transferred.

Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales. *Educational and Psychological Measurement*, 20, 37–46. Primary indexed article. Chance-corrected agreement supplements raw disagreement and prevalence when coding issue types or acceptance decisions. Agreement between reviewers does not authenticate the underlying business truth.

Barr, E. T., Harman, M., McMinn, P., Shahbaz, M., & Yoo, S. (2015). The Oracle Problem in Software Testing: A Survey. *IEEE Transactions on Software Engineering*, 41(5), 507–525. Author-hosted full text. Correct behavior needs a defensible reference. Reproducing a previous number or matching a ticket status cannot replace the business acceptance oracle.

NIST Joint Task Force (2022). SP 800-53A Revision 5: Assessing Security and Privacy Controls in Information Systems and Organizations, section 2.4. Official guidance. Separate assessment objects and examination, interview and test. This case adapts the evidence discipline without claiming security certification or control compliance.

Primary research, author materials and official guidance. Abstract or indexed access is identified where applicable. No external effect size is transferred to this case.

REFERENCES / PRIMARY METHODS AND SUBSTANTIVE LITERATURE

Prevent the reporting system from substituting for the work

These sources inform issue identity, measurement validity and the proposed test. They do not authenticate the original tracker or establish its adoption, defect remediation or business impact.

The W. Edwards Deming Institute. The Funnel Experiment. Institutional explanation. Acting on variation before understanding its cause can worsen a process. The case separates metric redefinition, row consolidation and reporting changes from a change in the operating process.

NIST/SEMATECH. e-Handbook of Statistical Methods: Individuals Control Charts. Official formula guidance. Moving ranges require ordered observations with comparable meanings. A two-point sensitivity or a row-count reconciliation is not an adequate operating baseline for attributing remediation success.

Campbell, D. T. (1976). Assessing the Impact of Planned Social Change. Occasional Paper Series, 8. Primary ERIC record. Consequential measures can influence the behavior being measured. The contract therefore tests closure and recurrence independently; it does not infer gaming from incomplete records.

Goodhart, C. A. E. (1984). Problems of Monetary Management: The UK Experience. In *Monetary Theory and Practice*, 91–121. Original chapter record. A control target can change the relationship it is intended to monitor. Counts of closed or merged tickets must not substitute for validity checks on fixed original issues.

Ittner, C. D., Larcker, D. F., & Randall, T. (2003). Performance Implications of Strategic Performance Measurement in Financial Services Firms. *Accounting, Organizations and Society*, 28, 715–741. Author institutional summary. Connect the measurement architecture to the strategic decision. Better issue visibility is a different construct from better business performance.

OECD / European Commission JRC (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Official guidance. Component definitions and aggregation determine interpretation. An actionable issue needs its own linked evidence; multiplying marginal field coverage assumes an unsupported dependence structure.

Barnett, A. G., van der Pols, J. C., & Dobson, A. J. (2005). Regression to the Mean: What It Is and How to Deal with It. *International Journal of Epidemiology*, 34, 215–220. Publisher abstract. Extreme observations can be followed by less extreme ones without an effective intervention. Selecting the most visible issues cannot identify the tracker's effect.

Altman, D. G., & Bland, J. M. (1995). Absence of Evidence Is Not Evidence of Absence. *BMJ*, 311, 485. Primary indexed article. Interpret negative findings against the observation process. The inference that matching local copies prove no organizational follow-through is an overreach; the relevant actions may be outside those files.

Primary research, author materials and official guidance. Abstract or indexed access is identified where applicable. No external effect size is transferred to this case.

REFERENCES / PRIMARY METHODS AND SUBSTANTIVE LITERATURE

Test the remediation contract on the original eligible work

These sources inform issue identity, measurement validity and the proposed test. They do not authenticate the original tracker or establish its adoption, defect remediation or business impact.

Hernán, M. A., & Robins, J. M. Causal Inference: What If. Author-hosted book and materials. Specify eligibility, assignment, intervention and follow-up before analyzing successful completions. The proposed trial retains original issue families after closure, withdrawal, merging, splitting and recurrence.

Collier, D. (2011). Understanding Process Tracing. *PS: Political Science & Politics*, 44, 823–830. Primary methodological article. Match the test to the contribution claim and examine alternatives. Registry-attested artifact direction does not establish ownership of technical fixes or observed business outcomes.

Campbell, M. K., Piaggio, G., Elbourne, D. R., & Altman, D. G. (2012). CONSORT 2010 Statement: Extension to Cluster Randomised Trials. *BMJ*, 345, e5661. Primary indexed guidance. Declare the randomization unit, cluster flow and size assumptions. Shared remedy teams and platform changes can invalidate issue-row independence.

Morris, T. P., White, I. R., & Crowther, M. J. (2019). Using Simulation Studies to Evaluate Statistical Methods. *Statistics in Medicine*, 38, 2074–2102. Author-hosted full text. Define the estimand, data-generating mechanisms, performance measures and Monte Carlo uncertainty. The proposed model is tested at the null, planning effect and economic detection boundary.

Strong, M., Oakley, J. E., Brennan, A., & Breeze, P. (2015). Estimating the Expected Value of Sample Information Using the Probabilistic Sensitivity Analysis Sample. *Medical Decision Making*. Primary full text. Value information through explicit states, actions and consequences. The case computes an exact finite-state diagnostic decision, not the authors' regression estimator.

Prentice, R. L. (1989). Surrogate Endpoints in Clinical Trials: Definition and Operational Criteria. *Statistics in Medicine*, 8, 431–440. Publisher abstract. An intermediate endpoint cannot automatically stand in for the final outcome. Valid measurement, reduced handling burden and improved customer experience require separate causal and economic links.

Eldridge, S. M., Chan, C. L., Campbell, M. J., et al. (2016). CONSORT 2010 Statement: Extension to Randomised Pilot and Feasibility Trials. *BMJ*, 355, i5239. Author-hosted full text. A pilot answers feasibility questions before a definitive trial. Available independent domains, recurrence rates and reliable acceptance checks are unresolved inputs here.

Primary research, author materials and official guidance. Abstract or indexed access is identified where applicable. No external effect size is transferred to this case.

FINAL REFEREE REPORT / INTERNAL, AGENT-ASSISTED REVIEW

The register clarifies accountability without claiming the repairs

[AI] Author-led review and independent parallel agents challenge the evidence, arithmetic and decision design. This is internal review, not external academic review or client certification.

Major issue	Resolution or remaining gate
Scope and issue identity	Local and context issues are separated. Canonicalization changes the counting unit; typed relations distinguish duplicate identity from a common root, shared remedy or overlapping exposure.
Commitments and chronology	No-date complements do not establish valid commitments. Marginal fields do not establish a joined issue contract. The earlier-year upper bound applies to recorded raising, not actual defect onset.
Closure and follow-through	Closed, working as designed, partially fixed and independently validated remain distinct. Matching local copies establish identity, not absent organizational action elsewhere.
Contribution boundary	Scope, register design, stable references, relationship rulings and evidence corrections receive provisional registry-level hoop support. Other teams retain remedy and outcome ownership.
Prospective model	Independent calculations reproduce Markov rewards, effect-specific power, economic thresholds and information value. The test retains original families and recurrence. Conditional recruitment and independent verification remain implementation gates.

Partner critique: would the COO act on page 1?

[AI] Yes: appoint the maintainer, secure an owner’s next accepted milestone and freeze the business acceptance test. Verify the remedy on the same original issue family, including recurrence. The decision does not depend on invented customer or financial impact.

Positive contribution within the evidence boundary

[AI] The register is a tangible operating artifact: source-indexed issues, stable identity, local/context scope, relationship rulings and explicit gaps. Its rigor lies in making responsibility and uncertainty inspectable while leaving remedy acceptance with the correct owners.

FINAL REVIEW DISPOSITION

[AI] Source-boundary review, protocol clarification, independent numerical reproduction and rendered-page inspection pass for the supported register-design case. Sustained use, verified historical repairs and realized financial benefit remain unestablished.

Internal author-led and independent agent review. Numerical reproduction, protocol closure and actual rendered-page inspection are documented privately. No external certification or historical benefit claim is implied.