

OPERATING CASE STUDY / CUSTOMER EXPERIENCE & LOGISTICS

Delivery Damage Reduction Strategy

Convert a broad defect-reduction mandate into executable actions and defensible benefit claims

An anonymized operating case on a three-action damage-reduction plan: packaging escalation, handling discipline and repack execution. The analysis tests the plan's sizing, operating authority and evidence of customer benefit.

PROJECT CONTEXT / DAMAGE STRATEGY & IMMEDIATE-ACTION DESIGN

BLUF / BOTTOM LINE UP FRONT

Start with reachable operating actions.
Require physical outcomes before scaling.

ANALYTICAL FINDING

The proposed repack benefit requires an unstated 3.4–9.0× multiplier on closing half the recorded benefit-attainment gap. Reconcile population, period and mechanism before using the estimate to fund rollout.

CONTRIBUTION IN THE SOURCE RECORD

Reframed the question, selected existing levers and corrected claims. Provisional registry hoop support; execution unverified.

EVIDENCE STATUS

Strategy and operating-design case; original artifacts unrecovered. A delivered plan does not establish adoption, reduced damage or realized savings.

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

EXECUTIVE ABSTRACT / DECISION AND OWNERSHIP

Approve a bounded action test before committing a damage benefit

[AI/PD] The proposed Damage Action Contract (DAC) connects a verified defect, an authorized intervention, observed execution and a mature customer outcome. Its purpose is to make existing operating levers executable without treating activity, reporting changes or external benchmarks as impact.

Abstract element	Decision-relevant synthesis
Context [HR]	A damage-reduction mandate became an immediate-action plan after the author rejected a new measurement mechanism as the wrong deliverable. The selected actions intensified existing packaging-escalation, handling and repack practices.
Objective [PD]	Prevent physical damage and unsafe or delayed recovery while retaining accountability for upstream decisions. Separate immediate local action from catalog-wide packaging change.
Approach [RC/AI]	Reconcile event populations, denominators, maturation clocks and benefit sizing; identify authority and manual-intake constraints; design a prospective evaluation of the local action package.
Findings [RC/AI]	The repack estimate requires an unstated 3.4–9.0× multiplier on closing half the recorded benefit-attainment gap. A common exposure denominator does not convert handling detections into a causal share of customer concessions.
Decision value [PD]	Authorize evidence calibration and a bounded local trial. Withhold the unsupported benefit commitment; assign the upstream receiving owner before promising packaging changes.
Implications [PD]	The operating sponsor owns the local offer and capacity; site leaders execute; the packaging authority accepts upstream requests; independent evaluators verify customer condition, timing and incremental cost.

EXECUTIVE ACTION AND THRESHOLD

[PD] Scale only when the lower confidence bound on net benefit is positive and separate physical-damage, delay and measurement-quality conditions pass. Keep the upstream packaging path outside the local trial unless its assignment and cross-site effects are explicitly designed.

Basis: S1 selected register. [HR] historical record; [RC] recalculated; [AI] analytical inference; [PD] proposed design. No realized damage-reduction benefit established.

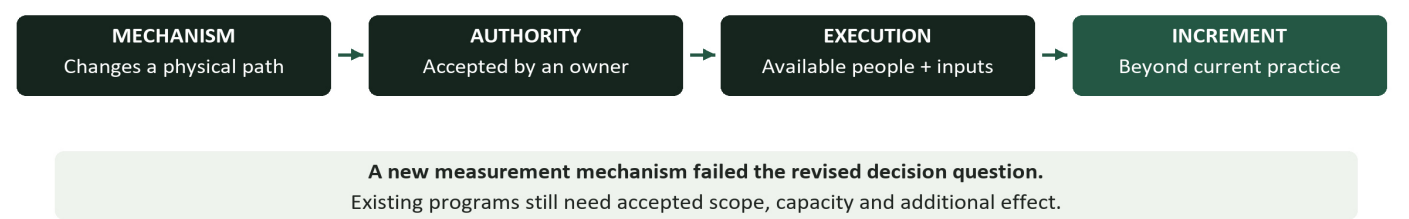
EXHIBIT 1 / REPAIR THE DECISION QUESTION

Replace an attractive mechanism with actions that have a reachable owner

[HR] An AI-assisted option search favored a new attribution mechanism. The author rejected that answer and required a small set of actions that could start through existing programs. [AI] The substantive contribution was correcting the decision scope and evaluating the options, not inventing the underlying programs.

A REACHABLE ACTION MUST PASS MORE THAN AN ANALYTICAL SCREEN

Historical design / the replacement plan intensifies existing operating practices



Source: S1 D03–D05 and implementation phases1–2. Proposed selection tests are not impact evidence.

Selection test	What the operating plan must demonstrate
Physical mechanism [PD]	Specify how the action can prevent damage, restore a suitable package or change an upstream decision. A better defect label is a distinct measurement benefit.
Authority and intake [HR/PD]	Identify who may change the process and how the request enters that owner’s accepted workflow. A ranked list is not an accepted escalation or an authorized packaging change.
Immediate execution [HR/PD]	Use available tools and established procedures, but identify actual labor, materials and managerial attention. An existing policy does not establish available capacity.
Increment beyond current work [HR/PD]	Define the additional support, coverage or fidelity relative to business as usual. Existing programs already carry planned benefit; intensification cannot claim their entire effect again.

KEEP THE CORRECTION VISIBLE

[HR/AI] The record preserves rejected options and a retracted financial headline. This supports a bounded claim about disciplined scope-setting; it does not establish that the replacement plan was adopted or effective.

Basis: S1 master/narrative, D03–D05 and implementation phases1–2. Contribution grade: provisional registry hoop support; originals unrecovered.

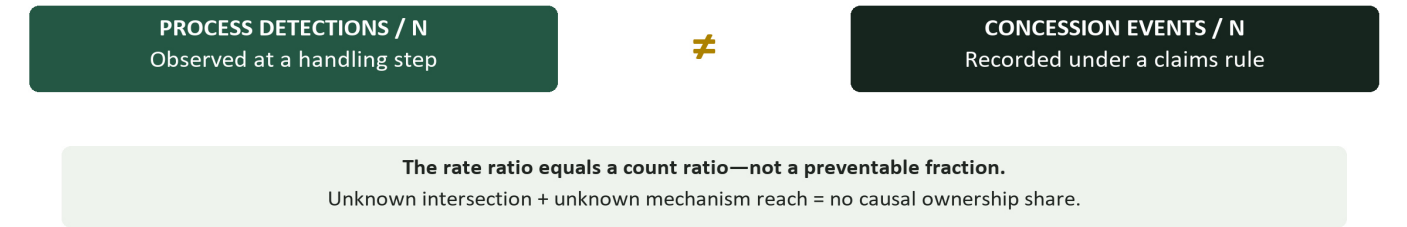
EXHIBIT 2 / EVENT IDENTITY

A shared denominator makes rates comparable without making their events interchangeable

[HR] The plan corrected an inducted-versus-shipped denominator error. [AI] The corrected comparison still joins process detections to concession events without event-level linkage. It cannot identify how much customer damage the local operation caused or could prevent.

RATE NORMALIZATION DOES NOT IDENTIFY THE SHARED EVENT SET

Analytical finding / common exposure aligns units; record linkage establishes overlap



Source: S1 M03–M05; event-set analysis. N must be the same eligible exposure; events remain distinct.

Observed quantity	Boundary that survives normalization
Handling-stage detection [HR/AI]	A package observed as damaged at a process step. Detection location does not establish where damage arose; recovery may prevent any later concession.
Customer concession [HR/AI]	A claim or service remedy under a separate taxonomy and reporting clock. It may concern an event detected earlier, detected later or never scanned as damage.
Common exposure [RC/AI]	Dividing both counts by the same eligible volume aligns the rate unit. Dividing the two rates then yields a count ratio; the unknown intersection has not been measured.
Operational control [PD]	Establish which physical failure paths a specific intervention can change. Even a verified event intersection is not automatically an avoidable or attributable fraction.

CHANGE THE ALLOCATION DECISION

[PD] Use the comparison to prioritize linked-record sampling. Do not reduce local accountability or assign upstream responsibility from a detection-to-concession ratio. Preserve an unknown-origin category until physical evidence resolves it.

Basis: S1 M03–M05 and source denominator correction. The event-set distinction is an analytical extension; no confidential count or causal share is published.

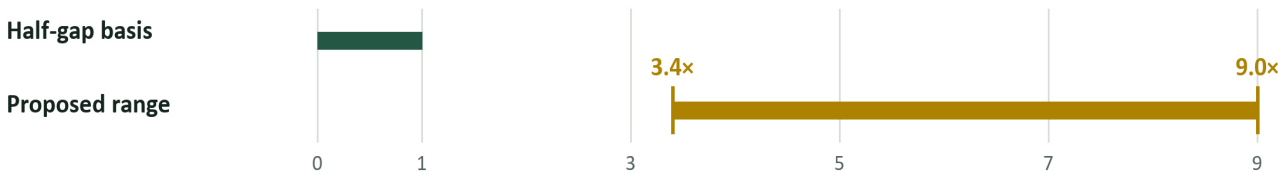
EXHIBIT 3 / BENEFIT RECONCILIATION

The repack estimate needs a scaling explanation before it can support investment

[HR] The source links an estimated repack benefit to closing half of a recorded delivered-versus-planned gap. [RC] Under a common population, period and rate basis, that arithmetic does not produce the stated estimate.

THE PROPOSED REPACK BENEFIT REQUIRES AN UNSTATED MULTIPLIER

Recalculation / half the recorded plan-attainment gap is the reference, not a measured effect



A different population, horizon or mechanism needs a documented scaling bridge.

Source: S1 M12. Ratios rounded; raw levels remain private. Proposed range is not a confidence interval.

Reconciliation view	Decision supported
Half the recorded gap = reference 1.0 [RC]	Subtract reported attainment from the corresponding plan, then halve the difference. This is the source’s stated sizing argument, not an estimated treatment effect.
Claimed benefit = 3.4–9.0× reference [RC]	The proposed range exceeds that argument by an unstated multiplier. Keep the original estimate and its basis visible in the private source ledger.
Different scope or horizon [AI]	A larger reachable population, longer period or additional mechanism could explain a multiplier. None is established by the cited arithmetic; demand an explicit bridge rather than assuming one.

[AI] Delivered benefit divided by planned benefit measures target attainment. It does not separately identify adoption, compliance or physical effectiveness. Applying it as a universal compliance haircut would add another unverified causal assumption.

HOLD THE ESTIMATE, CONTINUE THE TEST

[PD] Remove the unsupported value commitment from the funding case. Measure eligible episodes, current practice, treatment reach and incremental cost; estimate the added effect of intensification against that comparator.

Basis: S1 M11–M13 and repack plan/attainment values. Protected multiplier only; different populations or periods require a documented scaling bridge.

EXHIBIT 4 / THREE ACTION PATHS

Give each action a distinct operating path and a testable endpoint

[HR] The plan selected packaging escalation, a handling refresh and improved repack execution. [AI] They differ in authority, eligible populations, latency and interference. A single activity score or weekly damage read cannot validate all three.

THE THREE ACTIONS CROSS DIFFERENT AUTHORITY AND OUTCOME BOUNDARIES

Historical plan + proposed validation / no common activity score demonstrates all three

ESCALATE
Accepted case → pack decision

HANDLE
Changed practice → less damage

REPACK
Safe triage → suitable receipt

Local handling/repack can be evaluated as one additional support package.
Catalog-wide packaging changes require separate assignment and interference controls.

Source: S1 M11–M13 and implementation phases2–4; proposed DAC trial boundary.

Recorded action [HR]	Required extension before launch [PD]
Packaging escalation	Secure a receiving owner and case acceptance criteria. The source describes manual, item-in-hand intake; a dashboard list cannot be assumed batch-fileable. Verify packaging decisions and later affected cohorts separately.
Handling refresh	Version the local practices and audit their actual use under load. Record starting package condition, transfer conditions and independent downstream outcomes. Do not infer effectiveness from an audit pass alone.
Repack execution	Verify salvageability and material availability before setting expectations. Track appropriate repack, safe rejection, later customer condition, delay and resource use; a high repack rate can conceal poor triage.
Common accountability	Record accepted requests, attempted actions, completion, exceptions and owner response. Escalate unresolved authority or capacity constraints rather than marking an activity complete.

RESPECT THE BOUNDARY OF THIS CASE

[HR/PD] Detailed packaging-engine forensics are a separate project. Here the contribution is choosing and sequencing a feasible escalation path; an upstream decision or network-wide product change requires its own evidence and evaluation.

Basis: S1 M13, D05 and implementation phases2–4. Proposed safeguards extend the source plan; no new deployment is asserted.

EXHIBIT 5 / MEASUREMENT AND SELECTION

Wait for the right outcome and test selected sites against a credible comparison

[HR] The plan targets high-damage and low-repack locations and proposes fast operating feedback. The source also distinguishes scan-detected damage from later customer reports. [AI] Selection and maturity can each create apparent progress without a treatment effect.

FAST ACTIVITY AND MATURE CUSTOMER EXPERIENCE HAVE DIFFERENT CLOCKS

Measurement design / elapsed time is illustrative and is not an observed trajectory

Operating action

→ Execution can be observed early

Customer outcome

→ Wait for independently validated outcome maturity

Freeze selection and the original cohort before treatment starts.
A selected-site decline or an immature claims read can mislead the decision.

Source: S1 M01/M14–M15 and planned selection rules. Arrow lengths convey order only, not duration.

Risk to the interpretation	Required response
Worst-site selection [AI/PD]	Extreme observed performance contains noise, case mix and opportunity differences. Freeze selection before treatment, retain the full eligible frame and compare against concurrently assigned controls.
Different outcome clocks [HR/PD]	Fast scan maturity does not establish mature customer experience. Lock the original promise/cohort clock, track late updates and validate ascertainment independently before choosing the final read.
Dashboard reconciliation [HR/PD]	The source’s preferred tracking view was under repair. Directional agreement with another source does not validate the instrument, especially for repack measures available only in the disputed view.
Sparse historical movement [RC/AI]	Tentative process limits describe the few recorded points; they cannot establish a stable process. The earlier weekly decline predates the plan and is not its outcome.

DO NOT CALL A SMALL NULL A FALSIFICATION

[AI] The antecedent short-series correlation did not establish a causal link. It also did not prove the absence of harm. Its daily inputs and a completed forward test are not available here; causal claims require a design that can resolve the decision.

Basis: S1 M01/M06/M14–M15, D05–D06. Dedicated correlation and maturation studies remain separate cases; no missing daily panel is reconstructed.

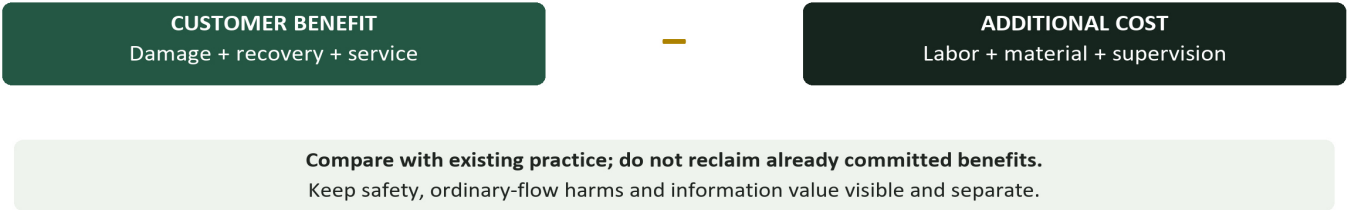
EXHIBIT 6 / NET VALUE AND GUARDRAILS

Measure customer burden and the cost of the extra work on the same population

[HR] Some actions were described as no-cost behaviors, while the same record names supervisory effort, materials, repack labor and upstream packaging cost. [AI] Existing procedures remove a policy dependency; they do not remove incremental economic cost.

EXISTING PROCEDURES STILL CONSUME INCREMENTAL RESOURCES

Proposed economics / evaluate the original eligible population and the same outcome horizon



Source: S1 M09/M11–M13; proposed DAC economics. No historical saving or zero-cost assumption.

Value component	Accounting rule for the proposed test
Physical damage and recovery [PD]	Use independent disposition and customer-condition evidence on the original eligible cohort. Retain unresolved outcomes and report bounds; absence of a concession is insufficient proof of undamaged receipt.
Time and service harm [PD]	Measure extra holds, missed promises, unsafe repack and displaced work. Retain ordinary-flow parcels in the original upstream cohort; do not condition inclusion on treatment-created repack eligibility.
Incremental operating resources [PD]	Price additional labor, materials, supervision, training and accepted upstream packaging changes. Distinguish redeployed capacity from avoidable cash expenditure.
Overlap and prior commitments [HR/PD]	Estimate the added package relative to existing practice. Do not add its benefit to the same committed program recovery, or add separate action estimates without measuring overlap and interactions.

ONE DECISION, SEPARATE EVIDENCE

[PD] The prospective model retains damage, delay and variable repack cost in its burden contrast; fixed implementation cost enters once at the decision threshold. Information value is reported separately as the benefit of better launch decisions; it is not added to operating impact or represented as historical savings.

Basis: S1 M09/M11–M13, implementation resource descriptions and proposed DAC economics. All model parameters are hypothetical planning inputs.

EXHIBIT 7 / CONTRIBUTION AND EXECUTION

Recognize the strategy correction while keeping adoption and impact unclaimed

[HR] The strongest contribution record concerns the author’s question, scope correction, action selection, honesty standards and proposed alignment sequence. [AI] These are consequential management choices; they remain distinct from formal authority over each program and from operating delivery.

A STRATEGY CORRECTION CAN BE DELIVERED WHILE EXECUTION IS UNVERIFIED

Contribution boundary / each stage requires evidence from its accountable owner



Source support is strongest for framing, action selection and corrections.
The first data pull, owner alignment, action adoption and mature effects remain unverified.

Source: S1 attribution and implementation phases0–4. Registry hoop support remains provisional.

Stage / responsible role	Claim grade and next evidence
Scope and selection / case author [HR]	Provisional registry hoop support. The record supports rejecting an unsuitable mechanism, preferring reachable existing levers and correcting overstated framing; originals are unrecovered.
Acceptance / operating and packaging owners [HR/PD]	Designed, not confirmed. Require an accepted local pilot, a named upstream receiving owner, a feasible intake path and allocated capacity before counting activation.
Execution / site and process leaders [PD]	Unverified historically. Use versioned training, material checks, action logs, exception handling and independent fidelity sampling rather than an action list alone.
Mature effect / independent evaluator [PD]	Unestimated historically. Evaluate the fixed cohort, relevant harms and incremental cost against an appropriate counterfactual; preserve results that contradict the proposed mechanism.

NEXT DECISION

[PD] Assign the local sponsor and upstream receiving owner. Authenticate the source, reconcile sizing, calibrate event linkage and capacity, and then run the bounded local evaluation. Treat any catalog-wide packaging intervention as a separate allocation decision.

Basis: S1 master attribution, D07 and implementation phases0–4. Process-tracing grades concern the derivative record, not authenticated execution or customer outcomes.

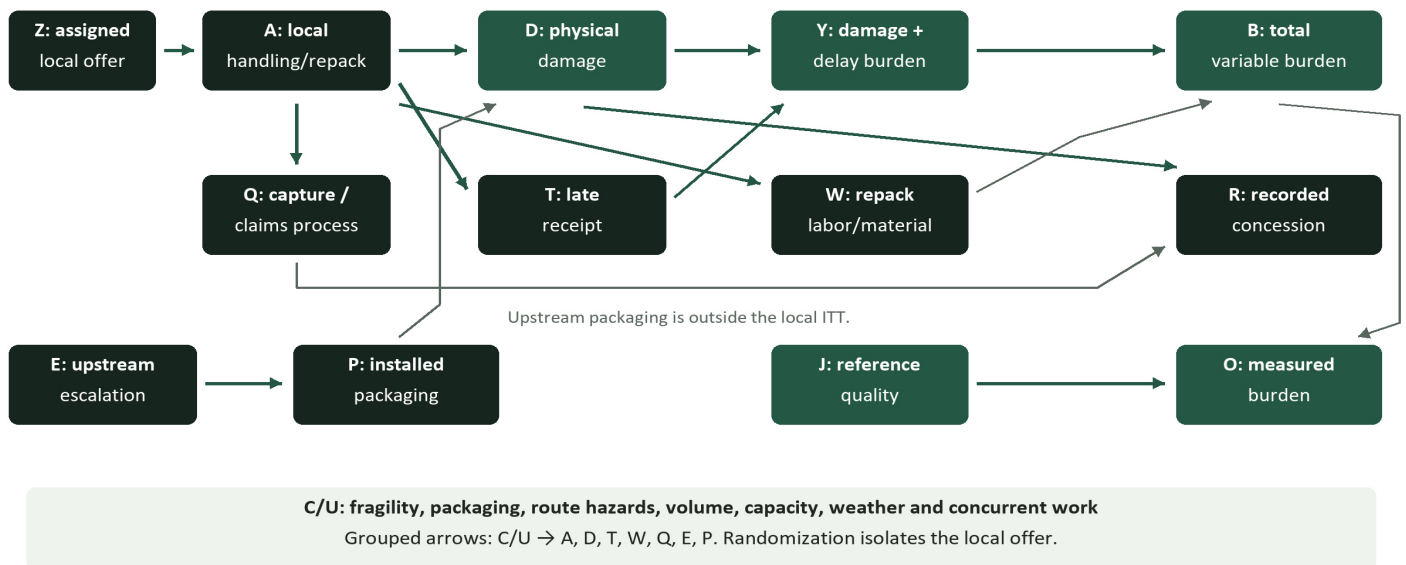
TECHNICAL ANALYSIS

Separate the local operating offer from the upstream packaging decision

[AI/PD] The proposed Damage Action Contract (DAC) joins a matched defect, a reachable lever, authorized delivery and a mature outcome. Local handling, packaging selection and the recording of damage follow different paths.

LOCAL ACTION AND UPSTREAM PACKAGING HAVE DISTINCT CAUSAL PATHS

Proposed DAG / physical harm, variable work and independent measurement stay visible



Y = damage and delay burden; B = Y + W. O independently measures B. Fixed implementation cost enters the decision once.

[PD] Z assigns the local offer; A is delivered handling and targeted repack. A can change physical product damage D, service delay T and repack resources W. D and T determine customer harm Y; Y plus W determine total resource burden B. Independent measurement O depends on B and reference quality J. The planning model assumes valid ascertainment; that assumption requires testing.

[PD] E is upstream escalation and P the authorized, installed packaging change. E→P→D is separate from local assignment. A can also change capture Q; D and Q influence recorded concessions R. A lower R can therefore reflect a recording or claims change without improved physical condition.

[PD/AI] C/U names product fragility, initial packaging, route hazards, volume, capacity, weather and concurrent changes. These affect A, D, T, W, Q, E and P. The register supports candidate mechanisms and scope decisions, not identified historical effects. Randomization identifies the local offer's ITT only within its eligible population and interference boundary.

Basis: registered strategy and proposed DAC mechanisms [HR/PD]. Arrows do not certify execution or effects. Upstream packaging changes remain outside the local trial.

TECHNICAL ANALYSIS

A count ratio is not a preventable share, even after its denominator is repaired

[RC/AI] The source corrected a mixed-denominator comparison. That repair aligns the rate unit but does not link handling detections to customer concessions or identify which failures an intervention can prevent.

Quantity	Measurement contract [AI/PD]
Process detection	A qualifying observation at a handling step. Define entity, repeated-scan policy, starting condition, stage and event time. Detection location is not necessarily damage origin.
Physical product damage	A prespecified loss of function, integrity or acceptable condition in the product. Distinguish it from permissible degradation of the outer package.
Damage concession	A recognized customer claim or remedy, with its own eligibility, classification and reporting date. A missing claim is not proof of an undamaged product.
Local offer effect	Usual-minus-assigned-bundle mean outcome on all original eligible units; execution, repack and delivery are mediators, not inclusion conditions.

[AI] For detection count H, concession count C and matched exposure E, dividing H/E by C/E gives H/C. Calling this a share additionally requires unique-unit deduplication and a verified H subset of C. Stage detections may repeat the same unit; the registered populations establish neither condition. Even a measured intersection would not identify the causal preventable fraction.

[PD] Link original customer units across process scans, package changes, replacement, receipt and claims. Preserve unmatched records and ambiguous links. Do not force a clean partition by treating the first recorded location as physical origin. Validate attribution with condition evidence before and after relevant transfers.

[AI/PD] A lower network rate can reflect more low-risk exposure. Estimate within-product/package/route changes and standardize to one frozen composition. A change in packages per customer order also changes exposure meaning. Separately indexed groups cannot be averaged into a valid network effect.

[AI] ISTA distinguishes product damage from package degradation and requires acceptance criteria before testing. Its guidance supports the definition discipline; it does not establish local damage incidence, an intervention effect or certification of the proposed process.

Basis: registered detection/concession denominator correction [HR/RC]; event-set identity [AI]; proposed linked-unit measurement [PD]; ISTA 2017 guidelines.

TECHNICAL ANALYSIS

Benefit attainment cannot supply the missing intervention effect

[RC/AI] The repack estimate exceeds the stated half-gap sizing argument by about 3.4–9.0 times under a common scope and period. A scaling explanation is required before that estimate can support a commitment.

[AI] A larger population, longer horizon or additional mechanism could explain a multiplier. None follows from the cited plan-versus-attainment arithmetic. The correction rejects that justification, not the physical possibility of a larger effect. Keep the original claim, its premise and the unresolved bridge in the private ledger.

Observed or proposed measure	What it can and cannot establish
Delivered benefit / planned benefit [HR/AI]	Target attainment. It does not separately identify adherence, coverage, conditional efficacy, baseline risk, plan quality or measurement error.
Repack rate [HR/PD]	Process activity on a declared eligible denominator. Higher activity can reflect more incoming damage or poor triage rather than better customer outcomes.
Escalations submitted [HR/PD]	Use of an intake path. Acceptance, a changed package specification and deployed protection are subsequent events requiring separate evidence.
Added mature benefit [PD]	A treatment contrast against existing approved practice, with a fixed population and ascertainment window. This is not supplied historically.

[PD] Measure fidelity directly: eligible opportunities, staff/material readiness, offered support, correct triage, delivered handling practice, appropriately completed repack and exceptions. Carroll and colleagues separate such adherence and dose from outcomes. A universal compliance haircut applied to opportunity values does not replace these observations.

[AI/PD] Existing programs already carry planned benefits. Intensification must earn an incremental effect over their current execution; do not claim the original program’s full impact again. Where handling and repack affect the same units, measure package-level outcomes rather than adding separate estimates.

[PD] Reconcile every economic estimate to eligible volume, original promise, mature outcome, avoidable cost and added labor/materials. Apply different realization factors to different components where needed. Information value concerns a changed evidence-purchase decision and remains separate from operating benefit.

Basis: source plan/attainment and modeled repack claim [HR/RC]; missing-scale interpretation [AI]; fidelity framework: Carroll et al. No realized benefit or measured compliance rate is inferred.

TECHNICAL ANALYSIS

Match the packaging remedy to the product and the hazards it will face

[HR/AI] The strategy chose existing escalation, handling and repack practices. Their familiarity reduces design effort, but none is effective merely because it already appears in a procedure.

Action path	Acceptance and failure conditions [PD]
Handling practice	Specify the physical exposure changed: drop, compression, vibration, load placement or transfer. Audit actual use under workload and preserve worker and customer safety.
Targeted repack	Confirm product condition and whether protective repack is appropriate. Replacing an outer package does not repair damaged contents. Track extra materials, labor, queueing and later condition.
Upstream packaging request	Identify a receiving decision owner, accepted evidence and authorized specification process. A ranked product list is not an accepted manual intake or a deployed packaging change.
Cross-geography transfer	Match product, distribution hazards, staff capacity, authority and source measurement. A target or directional benchmark from another network is not delivered local performance.

[AI] ISTA differentiates screening from prediction of distribution performance and warns that a test only addresses represented hazards. ASTM’s public scope likewise describes laboratory evaluation through a distribution sequence. Passing an appropriate laboratory test supports an engineering decision; it does not quantify this plan’s field benefit.

[PD] Freeze product/pack configuration, damage tolerance, closure method, route exposure and inspection criteria. Reassess protection when materials, products or transport conditions change. Pair laboratory acceptance with prospective customer-condition monitoring rather than using a badge as an outcome measure.

[AI/PD] Local staff cannot guarantee a catalog-wide packaging decision. Preserve the chain from evidence packet to acceptance, review, decision, installed configuration and later affected cohort. Shared decisions create interference across stations; the upstream path needs a product-family evaluation, not credit from a local station comparison.

[PD] A safe rejection is an intended outcome when repack cannot restore acceptable product condition. Do not reward repack volume at the expense of correct rejection, excessive delay, waste or concealed product damage. Suspend the practice when its authorized exception or rollback condition is met.

Basis: registered immediate actions and manual-intake boundary [HR]; prospective acceptance [PD]; ISTA 2017; ASTM D4169 public scope only; Hudgens and Halloran.

TECHNICAL ANALYSIS

Separate maturity, measurement quality and evidence of no harm

[HR/AI] The source distinguishes quickly recorded scan damage from later customer claims. It also records disputed tracking views and a short antecedent correlation analysis. These are three separate limitations, not interchangeable reasons to accept a causal conclusion.

[PD] Freeze the original eligible cohort and promise date. Keep event date, claim date, recognition date and extraction cutoff separately. Compare like-mature cohorts; a fast scan clock does not validate the longer customer-claim tail. Test the horizon empirically for each product and event category, including later revisions.

[AI] A nonsignificant short-series correlation is insufficient evidence of a causal link and insufficient evidence of its absence. Lagged sign changes can arise from timing, serial dependence, selection or concurrent movement. Searching multiple lags also changes the inferential problem. No missing paired daily panel or lag-specific sample size is reconstructed here.

[PD] Specify the smallest material adverse effect before evaluation. Rule out that effect only with a suitable design and sufficiently narrow uncertainty bound. A missed operational escalation threshold can mean “do not escalate on this rule”; it does not mean “the mechanism is falsified.” The dedicated correlation study remains outside this case.

Measurement check	Required evidence [PD]
Construct and invariance	Separate product damage, package degradation, repairability, delay and concession coding; test the same codebook across product families, networks and node types.
Truth and reliability	Two blinded coders review condition evidence, labels and timing independently; retain unresolved cases, confusion matrices, agreement and kappa intervals. Adjudication does not make missing evidence true.
Sampling and precision	Random core 240 histories plus difficult-case oversampling; cluster by repeated product/route and weight the supplement. The iid 95% raw-agreement screen is about ± 6.3 points, not a kappa precision guarantee.

[PD] Simulate kappa interval precision from pilot prevalence and dependence. Audit false “undamaged” decisions and inappropriate repack as well as recorded failures. A repaired dashboard must pass independent reconciliation against frozen linked records before its trend authorizes a benefit claim.

Basis: registered maturity and instrument restrictions [HR]; measurement design [PD]; Altman and Bland; Cohen. No historical error rate or equivalence result is established.

TECHNICAL ANALYSIS

Protect the focus cohort from ranking noise and case-mix dilution

[HR/AI] The plan targets extreme damage locations and low-repack sites. That can improve operational focus, but a selected extreme is not an untreated counterfactual and a later network rate is not a cohort follow-up.

Variation and selection

[PD] For a compatible ordered series, MR is the absolute adjacent change. Tentative individual limits are $\text{mean}(x) \pm 2.66 \times \text{mean}(\text{MR})$, with MR upper limit $3.267 \times \text{mean}(\text{MR})$. Very short, unequal-window, mixed-version or seasonal series are non-diagnostic. The private evidence audit retains every usable historical quotation; plans and candidate rankings are not achieved trajectories.

[HR/RC/AI] The private audit retains 22 screens: ten sparse historical comparisons; one maturity sensitivity; two as-of pairs; three source-version comparisons; two selection funnels; two plan/attainment pairs; one questionnaire comparison; and one lag-coefficient profile. All points and moving ranges lie within provisional arithmetic limits. No stable operating phase, mature package follow-up or eligible Laney panel is established. The missing daily correlation pairs were not reconstructed.

[PD] Freeze site selection before assignment. An explicitly hypothetical normal-ranking model gives the worst decile a mean 1.755 SD above the population mean. Repeat reliabilities 0.25, 0.50 and 0.75 imply untreated regression of about 1.32, 0.88 and 0.44 SD. These are sensitivity assumptions, not estimated shares of this project's movement.

Moderators and transport

[AI/PD] High damage counts can select high volume rather than high risk; extreme rates can select small noisy denominators. Compare eligible opportunities, uncertainty and product mix before ranking. Recent primary work on extreme-organization flags supports this caution, without supplying local reliability estimates.

[PD] Prespecify product fragility, original packaging, node type, network, route hazards, incoming damage and recovery capacity as moderators. Local handling cannot reverse pre-existing product destruction. Protective repack can help only when suitable product remains; false-positive triage adds work without that benefit.

[PD] Report within-stratum treatment contrasts and a standardized total using frozen exposure weights. Do not interpret a lower network rate produced by a larger low-risk denominator as improved high-risk performance. A different network's baseline, program maturity and authority structure require their own transport assessment.

Basis: source selection and sparse movement [HR]; tentative SPC and regression sensitivity [PD]; NIST; Laney; Barnett et al.; Abel et al. Historical process stability is not established.

TECHNICAL ANALYSIS

Credit the scope correction without claiming authority or delivery it did not establish

[HR/AI] The register supports a bounded strategy contribution: asking the operating question, rejecting an unsuitable answer, selecting intensifications and correcting overstated claims. The resulting plan is not a record of completed field execution.

Contribution claim	Process-tracing grade and boundary [HR/AI]
Reframed the decision	Provisional hoop: registered instructions and revisions support the scope correction. Original contemporaneous records still require authentication.
Selected immediate actions	Provisional hoop for recorded selection and honesty standards. Analytical drafting and research involved collaborators; underlying programs and policies belonged to other owners.
Designed first move and alignment	Provisional hoop for the proposed sequence. Assigned work, intended registration and a planned executive pitch are not verified completion or acceptance.
Owned packaging or station outcomes	Unestablished. Packaging authority, process ownership, local execution and mature customer benefit are distinct claims; no post-plan outcome is supplied.

[AI] Generated document properties and copied summaries cannot independently authenticate a human’s execution. Repeated claims across derivative records do not become separate corroboration. No smoking-gun or doubly decisive evidence establishes this strategy’s complete design-to-customer-effect chain.

Consolidated limitations and reproducibility

[HR/AI] Measurement lacks verified event nesting, physical origin, consistent maturity and reliable repack instrumentation. Identification lacks assigned comparisons, delivery evidence and mature follow-up. Transport is constrained by selected sites, product mix and shared packaging decisions. Economics lacks validated effect conversion, incremental costs and benefit overlap. Contribution remains bounded by derivative-source authentication.

[PD] Preserve source/version hashes, corrected and superseded calculations, entity crosswalks, cohort dates, uptake logs, acceptance records, blinded reference labels, allocation and executable analysis. Raw identities and values remain private. Public indexing does not cure incompatible constructs.

[AI] The absence of a recovered completion record does not prove that no work occurred elsewhere. Current execution status remains unknown. Later packaging forensics, subsequent degradation and measurement-remediation projects cannot be imported as outcomes of this plan.

Basis: registered authorship, re-scope and implementation status [HR]; contribution grades and consolidated limitations [AI]. Supported case type: strategy and operating design.

TECHNICAL ANALYSIS

Test the local bundle on all eligible units and price the extra work

[PD] Randomize independent matched support domains to targeted handling/repack intensification or usual approved practice. Keep upstream packaging changes outside the assigned package and record them as concurrent exposures.

[PD] Enroll six weekly cohorts using upstream customer-unit eligibility fixed before triage, holds or rerouting. The planning design assigns equal eligible volume per domain-week independently of treatment; unequal volumes require prespecified weights and new power calculations. Follow every original unit to its original delivery promise plus 35 days. Preserve cancelled, diverted, delayed and unresolved outcomes; neither delivery nor repack completion determines inclusion.

[PD] Positive ITT is usual-minus-offer mean total resource burden per original eligible unit. Independently assess physical damage and delay; add actual repack labor/materials once. Report physical-damage and service-risk contrasts separately. Record adjudication uncertainty and preregister bounds rather than dropping unavailable truth.

[PD] Independently classify incoming protective condition before action; treatment-created repack labels cannot define baseline strata. All original parcels remain in ITT. A hypothetical class-and-triage law supplies means; a separate known-Gaussian aggregate law supplies power. Its six-period correlation, matched-domain covariance and cross-endpoint associations require pilot calibration; parcel means do not identify them.

[PD] Require the resource-benefit lower bound to exceed fixed incremental cost and separately pass physical-damage and delay gates. Model pages evaluate joint decision power rather than treating several 80% marginal powers as 80% joint success. Compare MDE and break-even on one fixed reference, volume and horizon; recalibrate for estimated covariance, missingness and realized costs.

[PD] Bundle shared staff, materials and queues within assignment domains. Match on pre-period volume, product/packaging mix and incoming condition; randomize within pairs. No early crossover during ascertainment. Verify adequate independent domains before recruitment; more correlated parcels cannot repair insufficient assignment units.

[PD] A later upstream study needs product-family assignment or encouragement, tracking acceptance through installed change without conditioning on approval. If local rollout must instead be staggered, estimate group-time ATT against not-yet-treated domains; require no anticipation, common support, interference controls and baseline/event-time diagnostics. Nonsignificant pretrends are not proof. Re-power either alternative before relying on it.

[PD] Independent research ascertainment is common to both arms; log any symmetric urgent-safety feedback. Ordinary production verification, materials, labor and support remain in intervention cost. No trial, achieved precision or field effect is reported historically.

Basis: proposed local randomized evaluation [PD]; Hudgens and Halloran; Callaway–Sant’Anna for the unpowered staggered alternative. Model parameters are not estimated from the source.

TECHNICAL ANALYSIS

Four propositions make the action contract testable

[AI/PD] DAC is a proposed framework, not a demonstrated consulting method: a matched defect must connect to a reachable intervention, authorized delivery and independently measured customer and resource outcomes.

Proposition [PD]	Disconfirming evidence or boundary [PD]
P1: Targeted handling/repack reduces total burden in its eligible population.	An upper confidence bound below the prespecified worthwhile benefit, or failed damage/service guardrails, contradicts the claimed advantage.
P2: Better triage creates more value than simply increasing repack volume.	A sufficiently precise comparison showing no useful advantage from valid targeting challenges this mechanism within the tested class mix and costs.
P3: Packaging benefits depend on an accepted and installed change, not filing activity alone.	Mature improvement attributed to filing without a changed physical or operating path requires a different mechanism and a revised causal model.
P4: Local results vary with incoming condition, fragility and recovery capacity.	Precisely bounded interactions near zero on prespecified strata challenge those moderators; noisy nonsignificance does not establish uniform effectiveness.

[AI] Packaging-performance guidance requires a product, package and distribution-hazard match. DAC extends that logic to the operating decision: stage-of-detection labels cannot assign physical origin, and an escalation remains separate from the protection ultimately installed.

[AI] Implementation-fidelity research explains why benefit attainment cannot measure adherence directly. The source’s revision toward existing levers is consistent with actionable delivery design; it does not establish that the revised plan was accepted, delivered or effective.

[AI] Deming’s variation discipline cautions against treating routine or unqualified movement as a process shift. Campbell and Goodhart motivate watching how targets change filing, triage and reporting. Ittner’s performance-measurement work warns against equating an architecture with outcomes; composite design makes the chosen damage, delay and resource tradeoffs explicit.

[AI/PD] Tucker and Edmondson distinguish recovery work from learning that changes recurrent conditions. A useful local repack can rescue an item while leaving an upstream packaging problem intact. DAC preserves both paths without crediting them twice.

[PD] Preregister effects, harm margins, costs and interactions. A threshold-spanning interval is inconclusive; precise harm requires redesign. Economic clearance cannot override safety, ascertainment or owner authority.

Basis: proposed DAC propositions [PD]; ISTA; Carroll et al.; Deming; Campbell; Ittner et al.; OECD; Tucker and Edmondson. No historical outcome effect is confirmed.

PROSPECTIVE MODEL / DAMAGE ACTION CONTRACT

Test appropriate repair, not the volume of repack activity

[PD] Randomize the local handling-and-repack offer within matched independent support-domain pairs. Keep usual procedures available in both arms; upstream packaging changes remain outside this trial. Every numerical input is hypothetical.

[PD] Fix the same externally scheduled parcel count in each domain-week before local routing can respond. Retain every original assignment, including holds, cancellations and transfers, across six weekly cohorts. Adjudicate damage and lateness at original promise +35 days; validate this horizon. Missing truth requires bounds.

Hypothetical mechanism	Usual	DAC
Compromised protective packaging identified	30%	60%
Ordinary parcels unnecessarily repacked	2%	3%
Repair succeeds, given compromised repack	65%	75%
Ordinary-parcel handling damage	1.2%	1.0%
Added delay, given repack and otherwise on time	8%	3%

[PD] Assume acceptable contents, 6% repack-eligible compromised protection, 45% future damage risk without repair and 2% background lateness. Repack restores protection; it does not repair destroyed contents. For repack R, damage D and lateness T, customer-resource burden $Y=10D+2T$; work $W=0.9R$; primary $B=Y+W$. These are planning units.

PRIMARY ITT AND SAFETY

[PD] Estimate usual-minus-DAC mean B per original parcel, including non-use. Require damage and late-receipt gates. Unsuitable contents need safe rejection, retained eligibility and a separate disposition/cost state; recalibrate before field use. An all-hold policy fails the lateness condition.

[PD] Equal domain-week exposure makes equal-pair and parcel-weighted ITT agree. Unequal volume requires predefined weights and new power. Isolate shared staff and parcel flows; no individual execution effect is identified.

PROSPECTIVE MODEL / JOINT DECISION POWER

A larger test must resolve both economics and service risk

[PD] Usual burden=100; the assumed DAC reduction is 15.89 points. Separate fixed implementation cost is 6.11 points. Power is conditional on the declared Gaussian contrast law, not on historical field data.

Design	Pairs	80% MDE	Joint-power floor	Result
Initial / base	16	11.99	10.4%	Fails
Base candidate	80	5.36	98.8%	Conditional
Same candidate / stress	80	7.88	76.0%	Fails
Revised / stress	160	5.57	98.2%	Conditional

[PD] Six cohort means use AR correlation 0.50. Per-domain damage-cost/late-cost/work-cost covariance is [[576,0,-10],[0,9,12],[-10,12,36]] in squared index points; matching correlation is 0.40. Stress raises every component SD by 20% and lowers matching to 0.10. These assumptions are separate from the parcel means.

[PD] Funding requires lower 97.5% bounds above: fixed cost for economic benefit; zero for damage-risk benefit; and -0.10 percentage point for late-risk benefit. Joint power is at least 1 minus the sum of three failure probabilities. Also require two-sided 5% zero-null MDE at 80% power no greater than 6.11. Conditional minima: 62 base pairs; 133 stress pairs.

RECRUITMENT IS NOT ESTABLISHED

[PD] The revised design requires 320 independent domains. This is expanded-portfolio planning, not a feasible sample established by the source. First calibrate blinded covariance, outcome tails and authority; use studentized re-planning. If independence or recruitment fails, retain a calibration pilot rather than claim decision-grade power.

[PD/RC] Known-normal planning only; the Gaussian contrast is an approximation to bounded field outcomes. No claim of achieved field power. Safety endpoints share an explicit covariance; three separate 80% powers are not called 80% joint success.

PROSPECTIVE MODEL / INCREMENTAL ECONOMICS

More repair can reduce damage and still destroy value

[PD] A separate volume-only counterfactual raises triage sensitivity but repacks many ordinary parcels, retaining usual handling and repair quality. It is not a trial arm or an observed result. Each column uses its own usual-policy value=100; do not average columns.

Synthetic scenario, usual=100	Repack activity	Damage risk	Total variable burden
DAC	174.5	73.5	84.1
Volume-only	752.7	78.7	144.9

[PD] $Net_raw = a \cdot h \cdot 10 \cdot (D_{usual} - D_{offer}) + 2 \cdot (T_{usual} - T_{offer}) - 0.9 \cdot (R_{offer} - R_{usual}) - K_raw$. $Net_index = 100 \cdot Net_raw / B_usual$. Avoidability *a* and non-overlap *h* apply only to physical-damage benefit. Added work and service harm remain fully charged. Freeze economic weights before outcomes.

<i>a</i> / <i>h</i>	<i>K_index</i> =3.67	<i>K_index</i> =6.11	<i>K_index</i> =9.78
0.50 / 0.80	-0.64	-3.08	-6.75
0.75 / 0.90	5.26	2.81	-0.86
1.00 / 1.00	12.22	9.78	6.11

[PD] Cells are *Net_index*, not cash forecasts. Training 0.010, coordination 0.008 and production verification 0.007 sum to *K_raw*=0.025, or *K_index*=6.11, per original parcel at a prespecified service volume. Repack labor/material is already in *B*. Research-only auditing is separate.

VALUE THE FIELD OUTCOME VECTOR

[PD] Future net value = eligible volume x [damage ITT reduction x avoidable damage cost x non-overlap + signed delay ITT reduction x delay cost - extra repack x full work cost] - fixed incremental cost. Use the same mature cohort and horizon. Monetary inputs and field effects are unavailable; no value estimate is authorized.

[PD/RC] No effect estimate, source financial headline or external benchmark is imported. Never add prior program commitments or EVSI to this benefit. If covariance, cost realization or category overlap changes, reprice and re-power.

PROSPECTIVE MODEL / DECISION INFORMATION

Buy evidence only when it changes the authorized next action

[PD] This separate finite-state decision model values better routing among a bounded local test, repair of triage/capacity, and upstream/evidence escalation. It does not depend on a positive trial effect or count as operating savings.

Action / net decision utility	Locally ready	Repair first	Local case unsupported
Fund bounded local test	18	-14	-10
Repair triage/capacity	5	12	-4
Route upstream / hold local scale	2	2	9

[PD] Exclusive states follow this priority: locally actionable and feasible; otherwise correctable local triage/capacity gap; otherwise no supported local case. Assumed priors are 0.40/0.35/0.25. Without new evidence, repair-first has expected utility 5.20. Perfect information adds at most 8.45.

Signal accuracy	EVSI	Information cost	Net EVSI
0.45	0.1700	0.40	-0.2300
0.70	3.6200	1.20	2.4200
0.90	6.8400	2.50	4.3400

[PD] Correct-state signal probability is the stated accuracy; each incorrect label has half the remaining probability. Bayes updating selects the highest posterior expected utility. All 27 signal-to-action policies are enumerated. Utilities already include each subsequent action cost; evidence acquisition is subtracted once.

INFORMATION DOES NOT GRANT OPERATING AUTHORITY

[PD] These priors, utilities and signal quality are hypothetical. Validate the evidence and receiving owner before spending. Positive information value authorizes neither uncontrolled deployment nor substitution of paperwork for physical customer outcomes.

[PD/RC] EVSI is bounded by EVPI in every scenario. This normalized decision-utility pool is distinct from parcel operating costs; the two quantities are not added.

Reproduce the action decision before treating the plan as an outcome

[AI] This is a strategy and operating-design case. Its contribution combines a documented scope correction with new tests of event identity, benefit sizing and prospective execution value.

Claim class	Meaning and replication boundary
[HR] Historical record	An attributed action or statement in the supplied project register. Accurate cell transcription does not authenticate an unrecovered original, verify implementation or establish customer impact.
[RC] Recalculated	Source arithmetic, conditional set logic, tentative variation screens and explicitly hypothetical planning outputs. Recalculation does not validate the assumptions behind an original benefit estimate.
[AI] Analytical inference	A conclusion with stated premises: a non-nested event comparison, an unexplained benefit multiplier, uncertain authority, incomplete maturity or an activity measure that diverges from customer value.
[PD] Proposed design	The DAC framework, prospective local trial, safety conditions, economic sensitivity and information-value analysis. These are future tests, not historical deployments.

Reproduction sequence

[PD] Verify the workbook hash and selected cells. Preserve source versions, periods, event grains, maturity and units. Recalculate the half-gap multiplier without silently adding populations or horizons. Inspect actual event linkage before calling one count a share of another.

[PD] Reconstruct the triage, damage, delay and resource law; keep its hypothetical status explicit. Independently reproduce the paired covariance calculation, detection and economic thresholds, separate guardrails and information-value model. Verify that implementation cost and repack resources enter once.

WHAT THE ANALYSIS CHANGES

[AI] A feasible first action and a defensible benefit claim are separate achievements. The plan becomes investable when accepted authority, a reachable physical mechanism, observed delivery, mature outcomes and incremental cost can be tested on the same population.

Labels: [HR] historical record; [RC] recalculated; [AI] analytical inference; [PD] proposed design. Source basis S1; see private annex.

RESEARCH REFERENCES / METHODS AND INTERPRETATION

Separate product condition, implementation and causal evidence

Primary research and official methods support the interpretation and proposed tests. They do not authenticate the historical project or supply its missing outcome data.

International Safe Transit Association (2017). Guidelines for Selecting and Using ISTA Test Procedures and Projects. Official 17-page guidance, full text. Defines product damage separately from acceptable package degradation and relates testing to represented distribution hazards. Laboratory screening is not demonstrated field effectiveness; the case claims no certification.

ASTM International. ASTM D4169-23e1: Standard Practice for Performance Testing of Shipping Containers and Systems. DOI 10.1520/D4169-23E01. Official public Scope and Significance and Use; paid standard not accessed. Distribution-specific laboratory sequences inform engineering review, not a transferred field effect or a prescribed compliance claim.

Carroll, C., Patterson, M., Wood, S., Booth, A., Rick, J., & Balain, S. (2007). A Conceptual Framework for Implementation Fidelity. *Implementation Science*, 2:40. Full publisher article. Adherence, dose, coverage and delivery quality are distinct from outcomes; reported benefit attainment is not a direct compliance measure.

Hudgens, M. G., & Halloran, M. E. (2008). Toward Causal Inference With Interference. *JASA*, 103(482), 832–842. Full author manuscript. Shared staffing, queues or packaging decisions can transmit effects across nominal units. The case separates local assignment from catalog-wide change and transfers no source effect size.

Altman, D. G., & Bland, J. M. (1995). Absence of Evidence Is Not Evidence of Absence. *BMJ*, 311(7003), 485. Primary indexed text/record; direct full-text access restricted. Nonsignificance does not establish equivalence or absence of a harmful effect. The short historical correlation is not a causal falsification.

Abel, G. A., Agniel, D., & Elliott, M. N. (2025). The Good, the Bad and the Ugly: What Do We Really Do When We Identify the Best and the Worst Organisations? *BMJ Quality & Safety*, 34(1), 53. DOI 10.1136/bmjqs-2023-017039. Primary structured full page. Simulations illustrate the influence of reliability and sample size on extreme-organization classifications.

Little, J. D. C. (1961). A Proof for the Queuing Formula: $L = \lambda W$. *Operations Research*, 9(3), 383–387. Publisher abstract. Under relevant stability conditions, queue stock, throughput and residence time are linked. Extra repack work can require capacity; the case does not assume historical stationarity or infer a queue delay from absent data.

Private research memo records access scope: full text, primary abstract or continuing reference verified earlier in the series. No external effect size is transferred.

RESEARCH REFERENCES / METHODS AND INTERPRETATION

Separate compatible arithmetic from identifiable operating effects

Primary research and official methods support the interpretation and proposed tests. They do not authenticate the historical project or supply its missing outcome data.

NIST/SEMATECH. e-Handbook of Statistical Methods, §6.3.2.2: Individuals Control Charts. Official method. The case computes tentative limits where pairs or short sequences exist while separately testing comparability. Targets, source revisions and censored bounds do not become a stable operating process.

Laney, D. B. (2002). Improved Control Charts for Attributes. *Quality Engineering*, 14(4), 531–537. Publisher abstract. Extra-binomial variation requires actual compatible counts and exposures. Large source volumes and rounded damage rates do not provide a valid repeated-rate panel.

Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales. *Educational and Psychological Measurement*, 20, 37–46. Publisher record. Independent classification uses agreement, confusion matrices and kappa with uncertainty. Shared coding error can produce agreement without correct physical-outcome truth.

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. Primary abstract. Selecting the worst sites can generate apparent recovery without treatment. This case parameterizes the risk rather than estimating it from absent untreated repeats.

Collier, D. (2011). Understanding Process Tracing. *PS: Political Science & Politics*, 44, 823–830. Primary publication. Authorship, approval, implementation and outcome contribution require different evidence tests. A reported metadata trail in a derivative register remains weaker than authenticated underlying artifacts.

Callaway, B., & Sant'Anna, P. H. C. (2021). Difference-in-Differences with Multiple Time Periods. *Journal of Econometrics*, 225, 200–230. Author manuscript. Group-time effects inform the alternative staggered rollout when randomization is unavailable; they do not inherit the primary randomized design's power or assumptions.

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*, 35, 570–583. Author repository. The case derives its own finite-state information model, without using this article's regression estimator or adding information value to operating benefit.

Private research memo records access scope: full text, primary abstract or continuing reference verified earlier in the series. No external effect size is transferred.

RESEARCH REFERENCES / METHODS AND INTERPRETATION

Link measurement, learning and governance without overstating benefit

Primary research and official methods support the interpretation and proposed tests. They do not authenticate the historical project or supply its missing outcome data.

Tucker, A. L., & Edmondson, A. C. (2003). Why Hospitals Don't Learn from Failures. *California Management Review*, 45(2), 55–72. Author manuscript. Local recovery and system learning are different mechanisms. A recurring review can preserve ownership, but the forum itself does not establish sustained damage reduction.

The W. Edwards Deming Institute. The Funnel Experiment. Official exposition. Adjusting to routine variation can worsen performance. In this record, source definitions, target trajectories and maturity must first be separated from actual comparable observations; no historical tampering effect is identified.

Campbell, D. T. (1976). Assessing the Impact of Planned Social Change. Original institutional record. Consequential indicators can distort behavior. The proposed DAC retains original episodes and independent physical and service outcomes so classification, closure or selection cannot silently substitute for customer condition.

Goodhart, C. A. E. Problems of Monetary Management: The U.K. Experience. 1975 conference; revised volume listed as 1976 in the RBA archive. The measurement critique informs the separation of targets, operational labels and physical and service outcomes. The case does not allege historical manipulation or infer intent.

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 manuscript. More detailed measures and a formal review cadence do not, by themselves, establish a causal performance effect.

OECD / European Commission JRC (2008). Handbook on Constructing Composite Indicators. Official handbook. Weighting and compensation require explicit choices. The DAC weights retain repack work and late-receipt cost; separate damage and service constraints prevent a favorable composite from authorizing an unacceptable component outcome.

Moreau, L., & Missier, P., eds. (2013). PROV-DM: The PROV Data Model. W3C Recommendation. Distinct entities, activities and derivations inform the source-version and action-event crosswalk. Provenance makes changes auditable; it does not authenticate unavailable originals or identify causal benefit.

Private research memo records access scope: full text, primary abstract or continuing reference verified earlier in the series. No external effect size is transferred.

FINAL REFEREE REPORT / INTERNAL AGENT-ASSISTED REVIEW

Approve the design case within its source and identification boundaries

[AI] Separate source, methods and numerical reviews inform this author-led report. It is internal agent-assisted review, not external peer review, client approval or a certification of consulting-firm rank.

Major issue	Disposition in the revised case
Event identity and authority	The common-denominator count ratio is not presented as a controllable fraction. Reporting nodes do not establish physical origin; accepted ownership and reachable mechanisms remain required.
Benefit sizing and fidelity	The half-gap multiplier is exposed, with different scope retained as an unverified explanation. Delivered benefit versus plan is not used as an empirical compliance rate.
Outcome and temporal evidence	Physical damage, concession records, customer timing and variable work remain distinct. Sparse pre-plan movement and nonsignificant correlation do not establish a causal benefit or absence of harm.
Evaluation and economics	The local package has a fixed original cohort and separate physical-damage/delay conditions. The upstream packaging path is outside its ITT. Hypothetical covariance, power and resource weights require field calibration.
Contribution and reproducibility	Scope-setting and corrections receive bounded registry support. Adoption and realized impact remain unclaimed. Source checks, independent arithmetic, disclosure screening and actual-page reviews have separate records.

Partner critique: can a COO act on page one?

[AI] Yes: authorize a bounded local test, require an upstream receiving owner, and withhold a benefit commitment that lacks a population-and-period bridge. The operating sponsor allocates capacity; an independent evaluator verifies mature outcomes and incremental value.

Minor revisions and remaining limits

[AI] The cover names benefit attainment rather than measured execution. The model retains original parcels, repack cost and delay; ordinary flow cannot disappear through selection. Originals, implementation, historical effects, calibrated variance and feasible recruitment remain unestablished.

REVIEW DISPOSITION — PASS WITHIN STATED SCOPE

[AI] The case supports the documented strategy correction, new reconciliation findings and a reproducible prospective design. It establishes no realized saving, deployment, causal damage reduction or effectiveness of an imported benchmark.

Labels: [HR] historical record; [RC] recalculated; [AI] analytical inference; [PD] proposed design. Source basis S1; see private annex.