

Impact Analysis for Large-Scale, Multi-National Digitization Initiatives

A Practitioner's Guide Across the Full TOGAF ADM Cycle

Digital Enterprise Architecture Advisors LLC

A Reference Paper for Enterprise, Domain, and Solution Architects

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Abstract

Large-scale, multi-national digitization initiatives fail less often because the target architecture is wrong, and more often because the impact of getting there is under-analyzed. This paper argues that Impact Analysis should be treated as a continuous enterprise architecture discipline — distinct from risk management and change management — rather than a single gate review performed once at project inception. It introduces a six-dimensional impact taxonomy (business/operating model, regulatory/legal/tax, data/application, technology/infrastructure, financial/commercial, and cultural/people) and applies it systematically across every phase of the TOGAF Architecture Development Method, from the Preliminary Phase through Architecture Change Management, with Requirements Management serving as the continuous carrier of impact findings between phases. For each phase, the paper defines the primary impact questions, applicable techniques and artifacts, multi-national-specific considerations, and typical deliverables, and demonstrates through worked examples how impact propagates across dimensions — a first-order technical decision cascading into second- and third-order regulatory, organizational, and financial consequences that can force re-entry into architecture governance. The paper further addresses the considerations distinctive to multi-national scope, including data sovereignty and cross-border transfer, statutory labor consultation, currency and transfer-pricing exposure, and cultural change-readiness variance, and proposes a governance model — ownership, materiality thresholds, and review cadence — for keeping impact assessments current as programs evolve. It closes with reusable templates, a stakeholder impact heat-mapping method, a set of anti-patterns observed repeatedly in practice, and an illustrative composite scenario, offering enterprise, domain, and solution architects a directly usable reference for a discipline too often improvised rather than engineered.

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Executive Summary

Large-scale, multi-national digitization initiatives fail less often because the target architecture was wrong, and more often because the **impact of getting there** was under-analyzed: a regulatory dependency surfaced too late, a regional operating model was assumed to be uniform when it was not, or a technology decision made in Phase D quietly invalidated a business case approved in Phase A. Impact analysis is the architectural discipline that prevents this — not as a single gate review, but as a **continuous practice woven through every phase** of the TOGAF Architecture Development Method (ADM).

This paper provides enterprise, domain, and solution architects with a structured, phase-by-phase treatment of impact analysis for programs that span multiple countries, regulatory regimes, currencies, and operating cultures — the pattern typical of global industrial, pharmaceutical, financial-services, and logistics enterprises. It defines a **six-dimensional impact taxonomy** (business/operating model, regulatory/legal/tax, data/application, technology/infrastructure, financial/commercial, and cultural/people), maps concrete impact-analysis activities, questions, techniques, and deliverables onto every ADM phase from the Preliminary Phase through Architecture Change Management, and shows how impact propagates across dimensions through worked, illustrative examples.

The paper also addresses the aspects of impact analysis that are distinctive to **multi-national** scope — data sovereignty and cross-border transfer, works-council and labor-consultation obligations, currency and transfer-pricing exposure, and cultural change-readiness variance — and closes with reusable templates, a governance model for keeping impact assessments current as programs evolve, and a set of anti-patterns observed repeatedly in practice.

The central argument is simple: **impact analysis is not a phase; it is a discipline that must be re-executed, at proportionate depth, every time the ADM cycle turns** — whether that turn is the first pass through Phase A or the fortieth iteration of Requirements Management triggered by a regulatory change three years into operation.

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1. Introduction and Purpose

Every enterprise architecture engagement produces change, and every change has consequences beyond the system, process, or capability that was the nominal target. In a single-country, single-business-unit initiative, those consequences are usually contained and traceable by inspection. In a **large-scale, multi-national digitization initiative** — a global ERP harmonization, a common customer-data platform spanning twenty markets, a shared-services consolidation across three continents, an AI-enabled operations platform deployed into regulated and unregulated jurisdictions simultaneously — the consequences multiply combinatorially across regions, regulatory regimes, operating models, currencies, and cultures. What would be a minor, locally absorbed ripple in a single-market program becomes, at multi-national scale, a chain of second- and third-order effects that can silently invalidate a business case, trigger statutory consultation obligations, or breach a data-protection regime months after a decision was made.

This paper treats **Impact Analysis** as a first-class enterprise architecture discipline — not a checklist item inside Phase A, and not a synonym for risk management or change management, though it feeds both. It is the systematic practice of identifying, tracing, and quantifying the downstream consequences of an architectural decision, at the point the decision is made and continuously thereafter, across every dimension in which the enterprise operates and every phase of the TOGAF Architecture Development Method.

Who this paper is for

This is a practitioner-level reference for Enterprise Architects, Domain Architects (business, data, application, technology, security), Solution Architects, and the architecture governance functions (Architecture Review Boards, EA program offices) that sponsor and consume impact analysis outputs on multi-national digitization programs. It assumes working fluency with the TOGAF ADM, ArchiMate modeling, and the general vocabulary of enterprise architecture governance; it does not re-explain those foundations but applies them specifically to the impact-analysis problem.

Scope

The paper addresses impact analysis for digitization initiatives — programs whose primary vehicle of change is technology-enabled transformation of business capability (ERP and platform consolidation, cloud migration, data and AI platform build-out, digital customer-

experience transformation, and comparable programs) — at multi-national scale, defined here as spanning three or more legal jurisdictions with materially different regulatory, operational, or cultural conditions. Smaller or single-jurisdiction programs can use a subset of the same method at reduced rigor; the paper notes where that scaling-down is appropriate.

2. Impact Analysis as an Enterprise Architecture Discipline

2.1 Definition

In this paper, **Impact Analysis** is defined as:

The structured identification, tracing, and evaluation of the direct and cascading consequences of a proposed or realized architectural change, across all affected business, data, application, technology, financial, regulatory, and human dimensions, sufficient to inform a governance decision.

Three properties distinguish this from adjacent disciplines architects sometimes conflate it with:

- **It is not risk management.** Risk management asks “what could go wrong and how likely is it?” Impact analysis asks “if this decision is made, what changes, for whom, and by how much?” — a largely deterministic tracing exercise that risk management then uses as an input to probability and mitigation planning.
- **It is not change management.** Organizational change management addresses how people move through a known transition. Impact analysis is frequently what tells change management that a transition is occurring at all in a given market, and how large it is — it is upstream of, and a primary input to, the change-management plan.
- **It is not a one-time gate artifact.** A single impact assessment produced at Phase A and never revisited is a snapshot that becomes progressively less true as the architecture is elaborated through Phases B through D and as migration reality diverges from plan in Phases E through G. Impact analysis is a living practice re-executed, at proportionate depth, every time a material decision is made or a material assumption changes.

2.2 Why multi-national scale changes the discipline

Impact analysis at single-market scale is largely a technical and organizational tracing exercise: which systems, processes, and roles does this change touch? At multi-national scale, four additional characteristics change the nature of the work materially:

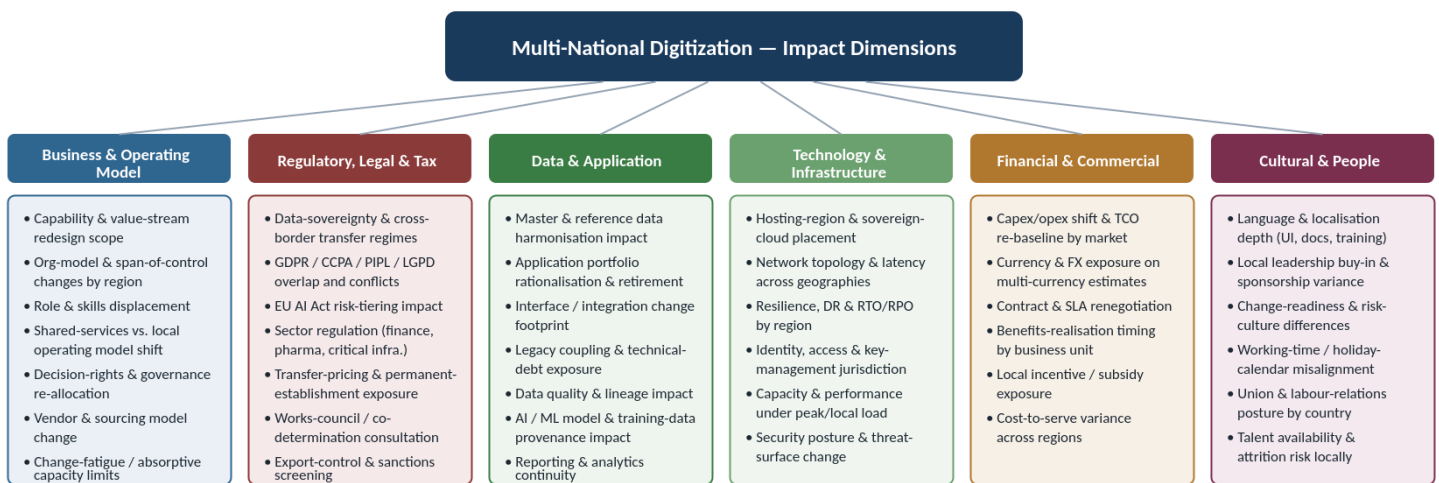
- **Non-uniformity of the starting state.** A capability such as “order management” or “employee onboarding” rarely means the same process, on the same systems, under the same legal constraints, in every market. Impact analysis must first establish a credible current-state baseline per market or market cluster before it can assess delta — a step that is frequently skipped, with the assumption of a uniform baseline being one of the most common root causes of underestimated impact.
- **Jurisdictional multiplication of constraint.** A single architectural decision — for example, centralizing personal-data processing in one cloud region — intersects a different, and sometimes conflicting, set of statutory obligations in each jurisdiction it touches. The impact-analysis question is not “is this compliant?” in the abstract, but “compliant against which of fourteen overlapping regimes, and what changes in each?”
- **Coupling between technical and organizational change.** Multi-national programs disproportionately touch operating-model questions — shared services versus local autonomy, regional versus global decision rights — that are politically and organizationally sensitive in ways a purely technical impact assessment will not surface unless the taxonomy explicitly includes them.
- **Time-zone and sequencing amplification.** Impact that would be resolved in a single planning cycle in one market can compound across time zones, fiscal-year boundaries, and local holiday calendars, extending the practical duration of impact resolution well beyond the nominal task duration.

2.3 Where impact analysis sits relative to TOGAF governance

TOGAF positions Requirements Management at the center of the ADM precisely because requirements — and their consequences — are meant to be revisited continuously as the cycle turns. Impact analysis is the practical mechanism by which that center holds: every phase of the ADM both **consumes** impact analysis from earlier phases and **produces** new impact findings that feed forward into later phases and, through Requirements Management, back into earlier ones. Section 4 of this paper works through that mechanism phase by phase; Section 3 first establishes the taxonomy of impact dimensions that gives the method its structure.

3. The Six-Dimensional Impact Taxonomy

Ad-hoc impact analysis tends to over-index on the dimension the analyst is most comfortable with — technologists over-weight systems impact, business analysts over-weight process impact — and under-weight dimensions outside their discipline. A structured taxonomy, applied consistently at every ADM phase, corrects for this. This paper uses six dimensions, chosen to map cleanly onto TOGAF's own domain architectures (Business, Data, Application, Technology) while making the two dimensions multi-national programs most often under-analyze — regulatory/legal/tax and cultural/people — explicit rather than folded silently into “business impact.”



Cross-cutting principle

Figure 2: Six-dimensional impact taxonomy applied across every ADM phase for multi-national digitization programmes.

These six dimensions are never independent. A single change — e.g., consolidating order-management onto one

Figure 2 — the six-dimensional impact taxonomy used consistently throughout this paper.

Business & Operating Model

Capability, process, value-stream, organization design, decision rights, and sourcing model impact — the dimension closest to TOGAF's Business Architecture domain, extended to explicitly include operating-model and governance change.

Regulatory, Legal & Tax

Statutory, contractual, and fiscal consequences: data protection and sovereignty, sector regulation, labor law and works-council obligations, transfer pricing, sanctions and export control. Frequently the dimension with the longest lead time to resolve and the highest cost of late discovery.

Data & Application

Master and reference data, application portfolio, integration footprint, technical debt, and — increasingly — AI/ML model and training-data provenance impact. Maps to TOGAF's Data and Application Architecture domains.

Technology & Infrastructure

Hosting, network, resilience, identity, and security-posture impact, with the multi-national-specific overlay of sovereign-cloud placement and cross-region latency. Maps to TOGAF's Technology Architecture domain.

Financial & Commercial

Capex/Opex shift, currency and FX exposure, contract and SLA renegotiation, benefits-realization timing, and cost-to-serve variance — the dimension that ultimately determines whether the business case survives contact with the other five.

Cultural & People

Localization depth, leadership sponsorship variance, change-readiness and risk-culture differences, working-time and holiday-calendar misalignment, and labor-relations posture — the dimension most often assumed rather than assessed.

3.1 The cross-cutting principle

The taxonomy is only useful if it is applied as a **cross-cutting trace**, not as six independent checklists. Practically, this means every material decision recorded in the architecture repository should be run through all six columns explicitly, even when five of the six answers are “no material impact identified.” The discipline is in forcing the question to be asked, not in the expectation that every dimension will always be affected. Section 5 works through a worked example of exactly this kind of cross-dimensional trace.

4. Impact Analysis Across the TOGAF ADM Cycle

Figure 1 summarizes the pattern this section elaborates: impact analysis is not concentrated in any single phase. Each phase of the ADM asks a **different impact question, at a different level of abstraction, using different techniques** — but every phase asks one. The Preliminary Phase asks it about scope and governance; Phase A asks it about stakeholders and business case; Phase H asks it about drift and regulatory change years into operation. Requirements Management, at the center, is the mechanism that carries impact findings from any phase to any other phase without waiting for the next full cycle.



Figure 1: Impact Analysis touchpoints mapped onto the TOGAF ADM cycle — impact is assessed, re-baselined, and validated at every phase, not performed once at project inception.

Figure 1 — Impact Analysis touchpoints across the full TOGAF ADM cycle.

4.1 — Preliminary Phase

The Preliminary Phase establishes the enterprise's architecture capability, principles, and governance framework for the program. Impact analysis here is deliberately coarse-grained: its job is to size the jurisdictional and organizational footprint of the initiative before any target-

state design work begins, and to establish the governance mechanism — an Impact Register, ownership, and cadence — that every later phase will use.

Primary Impact Questions

- In how many legal jurisdictions, and against how many distinct regulatory regimes, will this program operate?
- Does the existing architecture governance framework (principles, standards, ARB composition) already accommodate multi-national decision rights, or must it be extended?
- What is the organization's demonstrated absorptive capacity for concurrent change, by region, based on prior program history?

Techniques & Artifacts

- Jurisdictional footprint scan against the enterprise's operating-country list
- Architecture Principles review for multi-national applicability (data residency, language, currency principles added or confirmed)
- Establishment of the Impact Register as a governed repository artifact, with a defined owner and update cadence

Multi-National Considerations

- Confirm which markets have local architecture governance bodies that must be represented on or consulted by the program ARB
- Identify any jurisdictions with pre-existing regulatory consent decrees, sector licenses, or local-content requirements that will bound the solution space before Phase A begins

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Program Impact Register (v0)	Governance artifact: register structure, ownership, update cadence, escalation thresholds	Enterprise Architect / EA PMO
Jurisdictional Footprint Map	List of operating countries with regulatory regime tags (data protection, labor, sector)	Enterprise Architect + Legal
Architecture Principles Addendum	Multi-national-specific principles (data residency, localization, currency neutrality)	Chief Architect

4.2 — Phase A — Architecture Vision

Phase A produces the first architecture-level impact statement: a high-level view of who is affected, how significantly, and whether the business case survives a first-pass multi-national impact sizing. This is where the stakeholder map and the Statement of Architecture Work should first be run through the six-dimensional taxonomy at coarse grain — the goal is directional accuracy, not precision.

Primary Impact Questions

- Which stakeholder groups, in which regions, are materially affected by the proposed vision, and do their level of influence match their level of impact (the classic power/impact mismatch that derails governance later)?
- Does the business case's benefit and cost estimate already reflect known multi-national cost drivers (localization, dual-running, statutory consultation timelines), or is it a single-market estimate scaled up?
- What is the risk appetite variance across regions, and does the vision assume a uniform appetite that does not exist?

Techniques & Artifacts

- Stakeholder Map cross-referenced against the six-dimensional taxonomy (Figure 2) to flag under-represented dimensions
- High-level Business Case sensitivity check: does the estimate change materially if dual-running, localization, or consultation timelines are added explicitly?
- First-pass Impact Heat Map (see Figure 4 and Section 6) to prioritize which stakeholder groups need direct engagement before the vision is finalized

Multi-National Considerations

- Validate sponsorship exists locally, not only at group level — a vision with strong group-HQ sponsorship and weak regional sponsorship is a leading indicator of later Phase G governance failure
- Size, even roughly, the regulatory lead-time in the most conservative jurisdiction in scope (frequently the pacing item for the entire program timeline)

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Stakeholder Impact Map	Stakeholder groups scored on influence vs. impact, by region	Enterprise Architect
Vision-Level Impact Statement	One-page summary of directional impact across all six dimensions	Chief Architect
Business Case Sensitivity Note	Delta between single-market and multi-national-adjusted cost/benefit estimate	Business Architect + Finance

4.3 — Phase B — Business Architecture

Phase B is where impact analysis moves from directional to structural. Target-state capability, value-stream, and organization models are compared against the current-state baseline per market cluster, producing the first genuinely detailed impact trace — and, on multi-national programs, the first hard evidence of whether the assumed “global template” operating model is achievable or whether the target must accommodate regional variants.

Primary Impact Questions

- For each capability in scope, which markets' current-state process deviates materially from the proposed target, and what is the size of that gap (cosmetic configuration vs. fundamental process redesign)?
- What organization-design and decision-rights changes does the target operating model imply, market by market, and which of those changes trigger statutory consultation obligations?
- Which roles are displaced, redefined, or newly required, and is that impact concentrated in specific markets in a way that creates a workforce-relations risk profile the program has not yet planned for?

Techniques & Artifacts

- Capability-to-market impact matrix: capabilities (rows) against operating markets (columns), scored by degree of process change required
- Business-process delta modeling (as-is vs. to-be) per market cluster using ArchiMate business-process and business-function viewpoints, with impact annotated at the element level

- Organization-model impact assessment against each market's decision-rights and reporting-line baseline

Multi-National Considerations

- Identify every market where a works council, syndicate, or comparable statutory employee-representation body has consultation or co-determination rights over the process or organizational changes implied — this is frequently the single largest source of schedule risk in Phase B and must be flagged for Phase F sequencing
- Distinguish, explicitly, between capabilities that can run on one global process variant and those that structurally require local variants (tax invoicing, statutory reporting, local product regulation) — conflating the two is the most common cause of Phase C and D rework

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Capability Impact Matrix	Capability × market impact scoring with rationale	Business Architect
Business Process Delta Models	As-is/to-be ArchiMate process models per market cluster, impact-annotated	Business Architect
Organization & Consultation Impact Log	Markets requiring statutory consultation, with estimated lead time	Business Architect + HR/Legal

4.4 — Phase C — Information Systems Architecture (Data & Application)

Phase C's impact analysis splits along TOGAF's own Data and Application sub-domains. On multi-national programs, the data-architecture impact trace is dominated by sovereignty and cross-border transfer questions; the application-architecture trace is dominated by portfolio rationalization and integration-footprint change. Both must be reconciled against the capability impact matrix produced in Phase B.

Primary Impact Questions

- Which data domains contain personal data, and for each, what is the current and proposed processing location, and does the proposed change require a cross-border transfer mechanism under the relevant regime(s)?

- Which applications in the current portfolio are retired, replaced, or retained per market, and what is the resulting interface and integration-change footprint — specifically, how many point-to-point interfaces does the target architecture eliminate or must temporarily preserve during transition?
- Where master and reference data are harmonized globally, which markets' local data quality or completeness will not support the harmonized model without remediation, and what is the size of that remediation effort?

Techniques & Artifacts

- Dataflow and data-sovereignty mapping using ArchiMate's data-object and location viewpoints, overlaid with regulatory-regime tags per jurisdiction
- Application portfolio rationalization matrix (TIME model — Tolerate/Invest/Migrate/Eliminate) scored per market, cross-referenced to the capability impact matrix from Phase B
- Interface inventory delta analysis: current interface count and pattern vs. target, with a specific view of temporary transitional interfaces required during Phase F migration

Multi-National Considerations

- Explicitly evaluate whether a single global data model requires an EU-specific (or other regime-specific) data-residency exception, rather than assuming an exception can be resolved procedurally later
- Assess AI/ML model and training-data provenance impact where relevant: if models are trained on pooled multi-national data, does that pooling itself constitute a cross-border transfer requiring a lawful basis in every source market?

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Data Sovereignty Impact Map	Data domain × jurisdiction matrix with transfer-mechanism status	Data Architect + Legal
Application Rationalization Matrix	TIME-scored application impact per market	Application Architect
Interface Change Footprint	Current vs. target interface inventory, transitional interfaces flagged	Integration Architect

4.5 — Phase D — Technology Architecture

Phase D's impact analysis translates the data-sovereignty and application decisions from Phase C into concrete infrastructure and hosting consequences and adds the dimension unique to this phase: physical and network-topology impact across geographies, which is where sovereignty requirements, latency tolerance, and resilience targets collide most directly with cost.

Primary Impact Questions

- Given the data-sovereignty map from Phase C, which hosting regions and sovereign-cloud configurations are actually available from the enterprise's chosen cloud provider(s), and does that availability constrain the target architecture in ways Phase C did not anticipate?
- What is the network-latency impact on regions distant from the chosen primary hosting region, and does it breach any process-level performance requirement identified in Phase B (e.g., point-of-sale transaction response time)?
- How does the target technology architecture change the resilience and disaster-recovery posture by region, and are recovery-time and recovery-point objectives still achievable under local regulatory expectations (e.g., financial-services operational-resilience regimes)?

Techniques & Artifacts

- Technology-to-jurisdiction placement matrix, reconciling Phase C's sovereignty requirements against actual cloud-provider region and service availability
- Latency and performance impact modeling for the most geographically distant operating markets relative to the proposed primary and secondary hosting regions
- Identity, access-management, and key-management jurisdiction assessment — where are encryption keys held, and does that location itself carry regulatory significance distinct from data-at-rest location?

Multi-National Considerations

- Treat sovereign-cloud and data-localization requirements as hard constraints on the solution space in Phase D, not as configuration choices to be resolved during Phase E procurement — discovering a required region has no available managed-service equivalent late in Phase E is a recurring and expensive failure pattern

- Assess security-posture impact explicitly by region: a technology change that improves the aggregate security posture can still increase risk in a specific market if local threat intelligence, staffing, or incident-response coverage does not scale with it

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Technology Placement & Sovereignty Reconciliation	Region-by-region hosting decision with sovereignty and availability rationale	Technology/Infrastructure Architect
Latency & Resilience Impact Assessment	Performance and DR impact by region against Phase B requirements	Technology Architect
Security Posture Impact Note	Region-level security and identity impact, flagged exceptions	Security Architect

4.6 — Phase E — Opportunities and Solutions

Phase E packages the target architecture into deliverable work packages and evaluates build-versus-buy and transition-architecture options. Impact analysis here shifts toward the commercial and delivery-ecosystem consequences of solution choices, and toward the dependency structure of the transition architectures that will carry the enterprise through multiple intermediate states.

Primary Impact Questions

- For each candidate solution option (build, buy, hybrid), what is the differential impact on local vendor ecosystems and existing supplier relationships, market by market — does the chosen option strand any existing local contracts or capability investments?
- What dependency chains exist between transition architecture states, and which work packages, if delayed, cascade delay onto downstream packages in a different region or domain?
- Does the chosen solution option's delivery model (e.g., single global system integrator vs. regional delivery partners) itself introduce coordination and quality-consistency impact across markets?

Techniques & Artifacts

- Work-package dependency mapping (a directed graph of work packages with cross-package and cross-region dependencies made explicit, not left implicit in a Gantt chart)
- Build-vs-buy impact comparison including a vendor-ecosystem impact column alongside the standard cost/capability comparison
- Transition Architecture impact assessment: for each intermediate state, what interim risk or interim cost is carried, and for how long, before the next state is reached?

Multi-National Considerations

- Evaluate whether the chosen delivery model provides consistent architecture-conformance capability across all delivery regions, or whether some regions will be delivered by partners with materially different governance maturity — a common source of Phase G conformance issues
- Assess whether solution-option cost estimates have been normalized to a common currency and inflation basis, since Phase E is frequently where currency-driven cost distortion first enters the business case silently

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Work Package Dependency Map	Directed dependency graph across work packages and regions	Enterprise Architect / PMO
Solution Option Impact Comparison	Build/buy/hybrid options scored across all six taxonomy dimensions	Solution Architect
Transition Architecture Impact Register	Interim-state risk and cost carried per transition step	Enterprise Architect

4.7 — Phase F — Migration Planning

Phase F's impact analysis is dominated by sequencing: given everything known from Phases A through E, in what order can migration actually proceed without breaching a dependency, a regulatory precondition, a business-continuity window, or a statutory consultation timeline established back in Phase B?

Primary Impact Questions

- What is the critical path through the migration sequence once regulatory preconditions (e.g., a completed Data Protection Impact Assessment before an EU cohort can migrate) are treated as hard gates rather than parallel activities?
- What business-continuity impact does each cutover window carry, market by market, given local peak-trading periods, fiscal year-end, and statutory reporting deadlines that a single global cutover calendar will not respect uniformly?
- Where migration must proceed in waves, what is the impact of running the source and target systems in parallel for each wave — data-synchronization impact, duplicate licensing cost, and user-experience impact of a fragmented estate during transition?

Techniques & Artifacts

- Critical-path sequencing model incorporating regulatory gates, statutory consultation completion dates, and business-continuity blackout windows as hard constraints
- Dual-running impact assessment per wave: synchronization approach, duration, and cost
- Time-zone-aware cutover planning — explicit modeling of cutover windows against local business hours and holiday calendars rather than a single reference time zone

Multi-National Considerations

- Sequence EU or other high-consultation-obligation cohorts to migrate only after the statutory consultation and any required data-transfer mechanism are formally in place, even where this extends the overall program timeline, rather than treating consultation as something that can be completed in parallel with technical migration
- Build explicit contingency into the sequencing model for at least one market's consultation or regulatory approval taking materially longer than planned — this is one of the most consistently under-estimated risks in multi-national migration planning

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Migration Sequencing & Dependency Plan	Critical-path wave plan with regulatory and continuity gates	Migration Planning Lead
Dual-Running Impact Assessment	Per-wave synchronization approach, duration, and cost impact	Solution/Data Architect
Cutover Risk & Contingency Register	Time-zone and continuity-adjusted cutover windows with contingency	PMO + Enterprise Architect

4.8 — Phase G — Implementation Governance

Phase G's impact analysis is a conformance-tracing exercise: as delivery teams (often multiple, regional, and contractually distinct) build against the target architecture, where does actual delivery deviate from the governed design, and what is the downstream impact of each deviation — technical, financial, and contractual?

Primary Impact Questions

- For each architecture-conformance deviation raised, what is its downstream impact — does it affect only the local delivery scope, or does it break an assumption another region's delivery team is relying on?
- Do the contracts and statements of work with delivery partners in each region actually reflect the impact-adjusted scope from Phases B through F, or were they signed against an earlier, less impact-informed baseline?
- What is the cumulative impact of approved deviations, taken together, on the target architecture's original benefit case — individually minor deviations can aggregate into material benefit erosion.

Techniques & Artifacts

- Architecture Compliance Review process with a mandatory impact-trace field on every logged deviation (what else does this affect, not just “is this compliant”)
- Contract-to-architecture reconciliation check per delivery region, run at Phase G entry and at defined checkpoints thereafter
- Cumulative deviation-impact tracking against the original Phase A/B benefit case, reviewed at each governance checkpoint

Multi-National Considerations

- Ensure architecture-conformance criteria are interpreted consistently across delivery partners in different regions — establish a single conformance rubric and calibrate reviewers across regions rather than allowing implicit regional interpretation drift
- Track deviations arising from local regulatory requirements separately from deviations arising from delivery convenience — the former may need to become approved permanent variants rather than defects to be remediated

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Architecture Compliance Log	Deviations with mandatory downstream-impact trace	Architecture Review Board
Contract-Architecture Reconciliation Report	Per-region contract scope vs. current governed architecture	EA PMO + Procurement
Cumulative Benefit-Erosion Tracker	Running total of benefit-case impact from approved deviations	Chief Architect + Sponsor

4.9 — Phase H — Architecture Change Management

Phase H's impact analysis operates on a live, operating architecture rather than a design in progress. Its purpose is to detect two classes of impact-triggering event — architectural drift accumulating in production, and external change (regulatory, market, technological) impacting the deployed architecture — and to determine which events are significant enough to trigger re-entry into the ADM cycle, typically back through Requirements Management into Phase A or B.

Primary Impact Questions

- What is the cumulative drift between the as-deployed architecture and the last governed baseline, and has that drift itself created new cross-dimensional impact that was never assessed because it emerged from many small, individually approved local changes?
- What external events (a new regulation, a court ruling reinterpreting an existing regime, a major cloud-provider region change, an acquisition) have occurred since the last full impact assessment, and do any of them individually or cumulatively cross the threshold for ADM re-entry?
- Is the impact-analysis capability and Impact Register itself still current and staffed, or has it atrophied post-go-live in a way that leaves the organization blind to accumulating impact until a crisis forces re-engagement?

Techniques & Artifacts

- Architecture drift detection comparing as-deployed state (via configuration and asset-management data where available) against the governed baseline on a defined cadence

- Regulatory-change monitoring mapped explicitly against the Jurisdictional Footprint Map established in the Preliminary Phase, with a defined threshold for triggering re-assessment
- Periodic Impact Register health review — confirming ownership, currency, and organizational visibility of the register have been sustained into steady-state operations

Multi-National Considerations

- Maintain the regulatory-change monitoring function as a standing capability, not a program-duration activity — the regimes that drove the most impact during delivery (data protection, AI-specific regulation, sector rules) are also the regimes most likely to change materially during the operational life of the architecture
- Set an explicit, pre-agreed threshold (e.g., cumulative drift affecting more than a defined percentage of a capability's process steps, or a regulatory change affecting more than one operating market) for when Phase H findings mandate re-entry into Phase A/B rather than being absorbed as local change requests

Typical Impact-Analysis Deliverables

Deliverable	Content	Primary Owner
Architecture Drift Report	Deployed-vs-governed baseline delta, cross-dimensional impact flagged	Enterprise Architect
Regulatory Change Impact Log	External regulatory/market events mapped to affected architecture elements	Enterprise Architect + Legal
ADM Re-Entry Recommendation	Formal recommendation and rationale for re-entering Phase A/B	Chief Architect + ARB

4.10 Requirements Management — The ADM Core

TOGAF places Requirements Management at the center of the ADM diagram deliberately: it is not a phase with a start and end, but the **continuous carrier of impact findings between every other phase**. In practice, Requirements Management is where impact analysis output from any phase becomes a formally traceable requirement or constraint that any other phase must honor. On multi-national programs, three disciplines make this work in practice rather than in theory:

-
- **Bidirectional traceability.** Every requirement in the repository should be traceable both to the impact finding that generated it and to the architecture elements it constrains — a requirements-to-impact matrix, not just a requirements-to-solution matrix, is what lets a Phase H drift finding be traced back to which Phase B assumption it violates.
 - **A single Impact Register of record, federated by region.** Multi-national programs frequently fragment impact tracking into regional spreadsheets that never reconcile. A federated model — one register schema, regionally-owned entries, centrally aggregated and reviewed — preserves both local ownership and enterprise visibility.
 - **A defined re-baseline trigger.** Not every impact finding warrants reopening an earlier phase. Establishing explicit, pre-agreed materiality thresholds (see Section 8) prevents both the failure mode of ignoring significant impact and the failure mode of re-litigating every phase on every minor finding.

5. Impact Propagation and Second- and Third-Order Effects

The taxonomy in Section 3 and the phase-by-phase treatment in Section 4 both describe impact analysis performed **at** a decision point. The most consequential failures in practice, however, come from impact that **propagates** — a first-order effect in one dimension becomes the trigger for a second-order effect in a different dimension, which in turn triggers a third-order effect that reaches all the way back to program governance. Impact analysis that stops at first-order tracing systematically under-estimates true program impact on multi-national initiatives, because the dimensions most likely to generate second- and third-order effects — regulatory and cultural/people — are precisely the ones most often under-resourced in first-pass analysis.

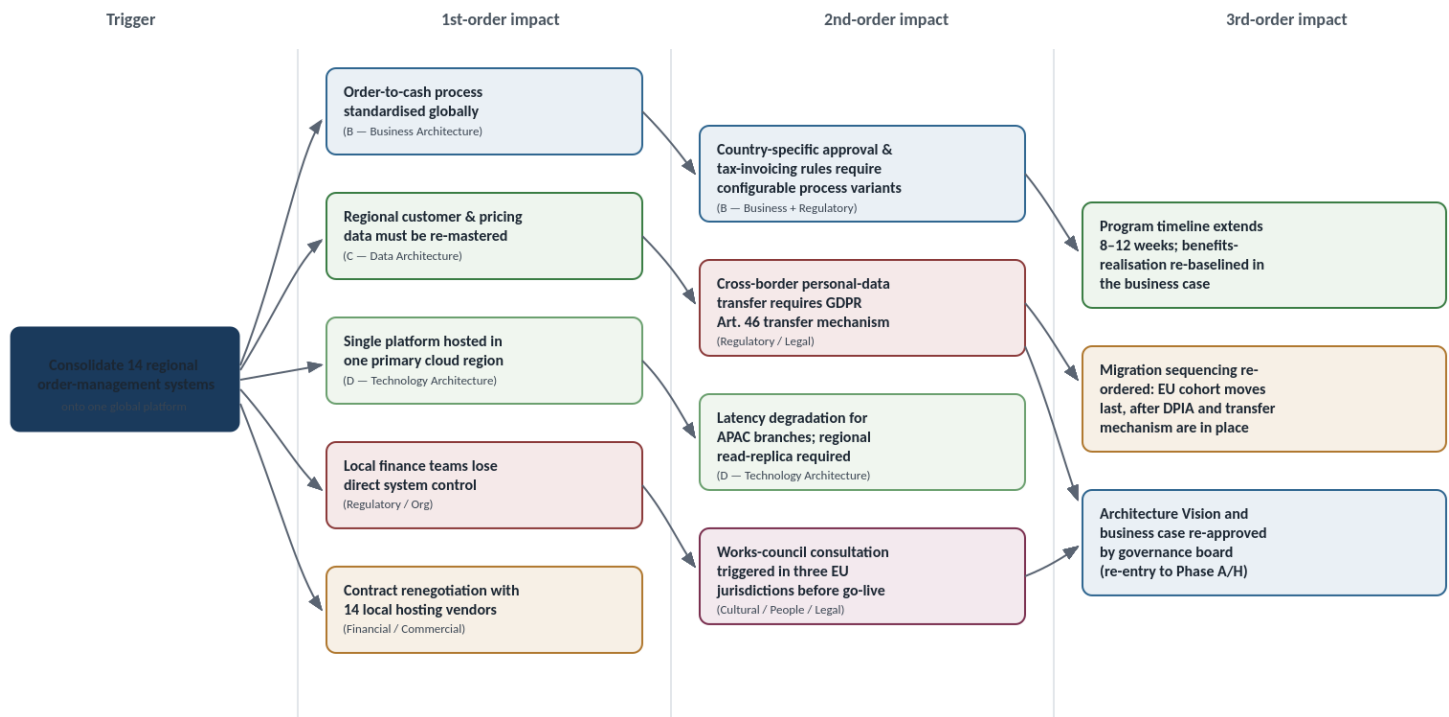


Figure 3: Illustrative impact-propagation chain — a single consolidation decision cascades across business, regulatory, data, technology, and financial dimensions, ultimately forcing re-entry into ADM governance.

Figure 3 — a single consolidation decision traced through first-, second-, and third-order impact.

Figure 3 works through a representative case: a decision to consolidate fourteen regional order-management systems onto a single global platform. Read left to right, the trigger produces five first-order effects across four different taxonomy dimensions (business, data, technology, financial). Two of those first-order effects — country-specific process variants and cross-border personal-data transfer — generate second-order effects that a purely technical impact assessment would not have surfaced at the trigger point. The second-order effects in turn

converge on a third-order outcome that reaches architecture governance itself: the program timeline extends, the migration sequence is reordered, and the Architecture Vision and business case require formal re-approval — in TOGAF terms, forced re-entry into Phase A/H.

5.1 Practical implications for the impact-tracing method

- **Trace at least two hops from every material decision.** A first-order-only impact assessment should be treated as provisional, not final; the discipline of asking “and what does that, in turn, affect?” twice from every first-order finding catches the majority of the propagation risk illustrated above.
- **Weight regulatory and cultural/people dimensions for propagation risk, not just direct impact magnitude.** A first-order effect that scores “low” on direct severity but sits in the regulatory or cultural/people column should still be traced forward, because these two dimensions are disproportionately likely to be the origin of second-order effects that reach governance.
- **Record propagation chains in the Impact Register as linked chains, not independent entries.** An Impact Register that stores the trigger, first-order, second-order, and third-order findings as unlinked rows loses the causal structure that makes the chain actionable; the register schema in Section 12 preserves parent-child linkage explicitly.

6. Stakeholder Impact Assessment

The six-dimensional taxonomy tells an architect **what** is affected. A parallel, equally structured view is needed to answer **who** is affected, and how severely, because governance and change-management resourcing decisions are made against stakeholder impact, not against abstract dimension scores. Figure 4 illustrates a composite-severity heat map crossing representative stakeholder groups against the six taxonomy dimensions — the same structure this paper recommends building, with real data, at the end of Phase A and refreshing at least once per subsequent phase.

Stakeholder Group × Impact Dimension — Composite Severity

	Business & Operating Model	Regulatory, Legal & Tax	Data & Application	Technology & Infrastructure	Financial & Commercial	Cultural & People
Group EA / Investment Board	MEDIUM	HIGH	MEDIUM	LOW	HIGH	LOW
Regional CIOs / Local IT	MEDIUM	MEDIUM	HIGH	HIGH	MEDIUM	LOW
Business Unit Leaders	HIGH	LOW	MEDIUM	LOW	HIGH	MEDIUM
Works Councils / Labour Reps	HIGH	HIGH	LOW	LOW	MEDIUM	HIGH
Regulatory / Compliance Officers	LOW	HIGH	HIGH	MEDIUM	LOW	LOW
Frontline Employees	HIGH	LOW	MEDIUM	LOW	LOW	HIGH
External Vendors / Partners	MEDIUM	MEDIUM	LOW	HIGH	HIGH	LOW

■ High — direct, material impact requiring active management
■ Medium — indirect or partial impact requiring monitoring
■ Low — minimal or downstream-only impact

Figure 4: Illustrative stakeholder-by-dimension impact heat map — composite severity used to prioritise Phase A/B stakeholder engagement.

Figure 4 — illustrative stakeholder-by-dimension impact heat map.

Several patterns in this kind of matrix recur across multi-national programs and are worth calling out explicitly because they consistently surprise programs that have not built the matrix deliberately:

- **Works councils and labor representatives frequently score high on dimensions technologists don't naturally associate with them** — business/operating model and cultural/people impact are obvious, but many jurisdictions' consultation rights extend to

data-processing changes affecting employee data, making the regulatory/legal column relevant to this group as well.

- **Regional CIOs and local IT frequently carry the highest combined technology and data impact**, yet in group-led programs are often engaged as delivery resources rather than as impacted stakeholders in their own right — a framing error that shows up later as passive resistance rather than active escalation.
- **Frontline employees and external vendors are the two groups most often excluded from formal stakeholder engagement altogether**, despite scoring high on at least one dimension in most real programs — building the matrix with these groups included, rather than starting from a leadership-only stakeholder list, is itself a useful corrective.

6.1 Using the matrix in governance

The matrix should drive three concrete governance decisions, not remain a reporting artifact: (1) which stakeholder groups require direct, structured engagement (interviews, workshops) versus indirect engagement (briefing, newsletter); (2) which groups' sign-off should be a formal governance gate versus a consultative input; and (3) where engagement effort should be prioritized when program bandwidth is constrained — the high-severity, high-count cells, not the loudest stakeholders.

7. Techniques, Artifacts, and Tooling

This section consolidates the techniques referenced throughout Section 4 into a single practitioner reference, organized by the type of tracing problem each technique solves.

7.1 Traceability and dependency techniques

Technique	Solves for	Typical tool support
Requirements-to-impact traceability matrix	Bidirectional linkage between a requirement/constraint and the impact finding that generated it, and the architecture elements it constrains	EA repository (Ardoq, LeanIX, BiZZdesign) or governed spreadsheet for smaller programs
ArchiMate impact viewpoints	Visual tracing of change impact across business, application, technology layers using standard ArchiMate relationship semantics (influence, serving, realization)	Archi, BiZZdesign Enterprise Studio, Visual Paradigm
Dependency graph / work-package network	Critical-path and cascade-delay analysis across work packages and regions	PMO scheduling tools with dependency export, or dedicated graph tooling for complex programs
Capability heat mapping	Prioritizing which capabilities carry the highest combined impact and risk, to sequence Phase B analysis effort	EA repository heat-map views, or purpose-built spreadsheet models

7.2 Regulatory and data-sovereignty techniques

Technique	Solves for	Typical tool support
Data Protection Impact Assessment (DPIA) / equivalent	Formal, regulator-facing assessment of high-risk personal-data processing, required proactively under several regimes when processing changes materially	Regime-specific templates (e.g., ICO/EU-aligned DPIA templates), often embedded in the Impact Register workflow

Technique	Solves for	Typical tool support
Cross-border transfer mapping	Identifying which data flows cross a jurisdictional boundary and which lawful transfer mechanism (adequacy, standard contractual clauses, binding corporate rules) applies	Data-flow diagramming combined with a jurisdiction/regime reference matrix maintained with Legal
Regulatory horizon-scanning	Detecting external regulatory change that should trigger Phase H re-assessment before it becomes an incident	Commercial regulatory-intelligence services, or a maintained internal watchlist mapped to the Jurisdictional Footprint Map

7.3 Prioritization and scoring techniques

Technique	Solves for	Typical tool support
Impact heat mapping (Figure 4 pattern)	Prioritizing stakeholder engagement and governance attention by combining severity and reach	Spreadsheet or EA repository visualization; simple by design so it remains usable in governance meetings
RAID log (Risks, Assumptions, Issues, Dependencies) cross-referenced to the Impact Register	Keeping impact findings connected to the broader program risk and assumption base rather than siloed in an architecture-only artifact	PMO's existing RAID tooling, extended with an Impact Register reference field
Weighted capability-impact scoring model	Producing a defensible, repeatable numeric score (rather than a purely qualitative one) when governance requires ranking many competing impact findings	Purpose-built scoring spreadsheet with documented weighting rationale, reviewed and re-approved at each major phase gate

7.4 A note on enterprise architecture tooling

Platforms such as Ardoq, SAP LeanIX, BiZZdesign Enterprise Studio, erwin Evolve, OrbusInfinity, Virima, and ABACUS all provide some combination of repository, impact-analysis, and dependency-visualization capability, and differ meaningfully in how well they support the **federated, multi-national Impact Register** pattern described in Section 4.10 — specifically in their support for regional data ownership with centralized aggregation, and in the maturity of their out-of-the-box impact-propagation visualization versus requiring custom modeling. Tool selection should be driven by the specific propagation and federation requirements set out in this paper rather than by generic repository feature comparison; this paper does not recommend a single platform, since the right choice depends on the enterprise's existing repository investment, regional governance model, and integration requirements with adjacent GRC and PMO tooling.

8. Governance: Keeping Impact Analysis Current

Impact analysis loses most of its value if it is produced once and then trusted indefinitely. This section defines the governance mechanism that keeps it current — who owns it, when it is re-triggered, and what threshold separates a routine local finding from one that must escalate to program-level architecture governance.

8.1 Ownership model

Role	Impact-analysis responsibility
Chief Architect / Program Architecture Lead	Owns the overall Impact Register and taxonomy; chairs escalation review; accountable for the ADM re-entry recommendation in Phase H
Domain Architects (Business, Data, Application, Technology, Security)	Own impact tracing within their domain at each phase; feed the cross-dimensional trace rather than working in isolation
Regional Architecture Leads	Own the regional entries in the federated Impact Register; validate that global findings are correctly localized and that local findings are escalated when they meet materiality thresholds
Architecture Review Board (ARB)	Reviews escalated impact findings at each phase gate; approves or rejects proposed re-baselining; owns the materiality threshold definition itself
Legal, Tax, and HR/Labor-Relations functions	Co-own the regulatory/legal/tax and cultural/people dimensions of the taxonomy; their sign-off is required, not advisory, on findings in those dimensions

8.2 Materiality thresholds

A defined, pre-agreed threshold for what triggers escalation and potential re-baselining prevents both under-reaction and over-reaction to impact findings. This paper recommends defining thresholds along three axes, agreed by the ARB before Phase B begins and revisited at each subsequent phase gate:

- **Reach:** does the finding affect one market only, a market cluster, or the global template? Global-template findings default to escalation regardless of severity.

- **Severity:** using the heat-map scoring from Section 6, does the finding score High on any dimension, or Medium on two or more dimensions simultaneously?
- **Reversibility:** can the finding be absorbed through a local workaround without foreclosing future options, or does it commit the architecture irreversibly (e.g., a hosting-region decision with long-term contractual lock-in)? Irreversible findings escalate even at otherwise moderate severity.

A finding meeting any one of these three criteria should be escalated to the ARB for a re-baselining decision within a defined SLA (commonly ten to fifteen working days for program-level findings); findings meeting none should be resolved locally and logged, not escalated, to keep the governance mechanism from being overwhelmed by routine local variance.

8.3 Cadence

Cadence	Activity
At every ADM phase transition	Full re-run of the six-dimensional taxonomy against that phase's deliverables before the phase gate is approved
Monthly during active delivery (Phases E–G)	Impact Register review; cumulative deviation and benefit-erosion tracking (Section 4.8); propagation-chain review for any new first-order findings
Quarterly in steady-state operation (post Phase H entry)	Architecture drift assessment; regulatory horizon-scan review against the Jurisdictional Footprint Map
Event-triggered, at any time	Any single finding meeting a materiality threshold (Section 8.2) triggers immediate ARB review regardless of the standing cadence

9. Multi-National Deep Dive

This section expands the multi-national-specific considerations introduced throughout Section 4 into a consolidated reference, organized by the four areas that most consistently drive impact on multi-national digitization programs in practice.

9.1 Data sovereignty and cross-border transfer

Overlapping and sometimes conflicting data-protection regimes — the EU General Data Protection Regulation (GDPR), the California Consumer Privacy Act and successor California Privacy Rights Act, China's Personal Information Protection Law (PIPL), Brazil's Lei Geral de Proteção de Dados (LGPD), and a growing set of sector- and country-specific data-localization rules — mean that a single “global data model” decision must be evaluated against every regime it touches, not against the most familiar one. The EU AI Act adds a further layer specifically for AI-enabled digitization initiatives: risk-tiering of AI systems that changes the compliance burden depending on use case (e.g., an AI system used in employee-recruitment or credit-decisioning contexts is tiered materially higher than one used for internal document search), which must be assessed as its own impact dimension whenever an initiative includes AI/ML capability.

Practical guidance: treat data-sovereignty impact assessment as a Phase C activity that must be substantially resolved — not merely identified — before Phase D technology placement decisions are finalized, since retrofitting sovereignty requirements onto an already-selected hosting architecture is materially more expensive than designing for them from the outset.

9.2 Labor law and works-council consultation

Statutory employee-consultation requirements vary widely in scope, timeline, and consequence of non-compliance across jurisdictions — from advisory consultation with limited timeline impact in some markets, to formal co-determination rights that can legally block implementation in others (notably several EU jurisdictions with strong works-council traditions) until consultation is complete. Programs that treat this as a Phase F scheduling detail rather than a Phase B impact-analysis input consistently underestimate both the timeline and the risk of injunctive action delaying go-live entirely.

Practical guidance: identify every market with statutory consultation rights during Phase B business-architecture impact analysis, obtain a realistic (not aspirational) estimate of consultation duration from local labor counsel, and build that duration into the Phase F critical path as a hard, non-compressible gate rather than an activity that can be accelerated under program pressure.

9.3 Currency, tax, and transfer pricing

Multi-currency cost and benefit estimation introduces FX exposure that a single-currency business case masks; a benefit case built in one reporting currency can materially over- or under-state true impact once translated across the markets where costs are actually incurred and benefits actually realized. Separately, centralizing a business capability (shared services, a global platform) frequently creates or changes intercompany service flows, with transfer-pricing and permanent-establishment tax consequences that are a direct, first-order financial impact of the architecture decision, not a downstream finance-team concern to be resolved after the fact.

Practical guidance: involve corporate tax and treasury functions as impact-analysis stakeholders from Phase A onward for any program that centralizes a capability or data-processing function across tax jurisdictions, rather than engaging them only at Phase E procurement or Phase G go-live.

9.4 Cultural change-readiness and localization depth

Change-readiness — willingness and capacity to absorb process and system change — varies by market for reasons that are organizational and cultural, not merely a function of communication quality, and a uniform change-management plan calibrated to headquarters' risk culture will systematically under-resource markets with lower baseline change-readiness. Localization depth is a related but distinct dimension: the difference between translating a user interface and genuinely localizing workflows, terminology, and reporting to match local business practice materially affects both adoption and the accuracy of any productivity-benefit assumption in the business case.

Practical guidance: where available, use prior program change-adoption data by market as an objective input to Phase B and Phase F planning rather than relying solely on qualitative stakeholder impressions of “how ready” a given market is.

10. Common Pitfalls and Anti-Patterns

The following patterns recur across multi-national digitization programs regardless of industry, and each maps directly to a gap in the method described in this paper.

Anti-pattern	Symptom	Corrective (this paper)
The single-market template fallacy	Designing the target architecture against one (usually headquarters') market's current state and assuming other markets are minor variations, discovered only in Phase C or D to require fundamentally different data or process models.	Establish a genuine multi-market current-state baseline in Phase B (Section 4.3) before target-state design proceeds.
First-order-only impact assessment	Stopping impact tracing at the immediately obvious consequence and missing the second- and third-order effects that reach governance (Section 5).	Apply the minimum two-hop tracing discipline from Section 5.1 to every material finding.
Regulatory impact treated as a parallel-track legal concern	Engaging Legal only for sign-off rather than as a co-owner of the regulatory/legal/tax taxonomy dimension from Phase A onward, resulting in regulatory findings that surface too late to influence design economically.	Co-own the regulatory dimension with Legal from the Preliminary Phase, per Section 8.1.
Impact Register as a Phase A artifact, not a living register	Producing a comprehensive impact assessment at Phase A that is never systematically updated, so that by Phase F it no longer reflects reality.	Apply the cadence and materiality-threshold model in Section 8.
Consultation obligations treated as a scheduling risk rather than an impact-analysis input	Discovering in Phase F that a market's works-council consultation requirement cannot be compressed to fit an already-committed go-live date.	Identify consultation obligations explicitly in Phase B (Section 4.3) and hard-gate them in Phase F sequencing (Section 4.7).
Currency-blind business case aggregation	Aggregating multi-currency cost and benefit figures without a consistent FX and inflation basis, producing a business case that looks stable but is not.	Normalize all multi-national financial impact to a single, documented basis from Phase A onward (Section 9.3).

Anti-pattern	Symptom	Corrective (this paper)
Stakeholder engagement calibrated to organizational seniority rather than impact severity	Concentrating engagement effort on the most senior or most vocal stakeholders regardless of where the heat map (Section 6) actually shows severity concentrated.	Use the impact heat map, not the org chart, to prioritize engagement effort and governance-gate participation.
Tooling fragmentation across regions	Each region maintaining its own impact-tracking spreadsheet with no central aggregation, so that no single view of enterprise-wide impact ever exists.	Adopt the federated Impact Register model in Section 4.10, with one schema and central aggregation regardless of tooling platform.

11. Worked Illustrative Scenario

The following composite scenario — representative of the pattern seen across global industrial, pharmaceutical, and logistics enterprises rather than a description of any single named engagement — illustrates the method applied end to end. **Enterprise:** a global industrial manufacturer with operations in 22 countries, headquartered in Germany, pursuing a program to consolidate regional manufacturing-execution and quality-management systems onto a single global platform, with an embedded AI-based predictive-quality capability.

11.1 Preliminary Phase and Phase A

The Jurisdictional Footprint Map identifies 22 operating countries across three regulatory clusters: EU/EEA (GDPR, EU AI Act, multiple national works-council regimes), North America (state-level privacy law variance, no federal works-council equivalent), and Asia-Pacific (including China, subject to PIPL and data-localization requirements materially stricter than the other two clusters). The vision-level impact statement flags the China cluster as the pacing item for the entire program on regulatory grounds alone, before any technical design work begins — a finding that reshapes the Phase A business case to model a phased, China-last sequencing option from the outset rather than discovering the same constraint in Phase F.

11.2 Phase B and Phase C

Capability impact matrix work in Phase B reveals that “quality inspection and release” — nominally one capability — in fact requires three distinct process variants: a heavily automated variant used in the EU and North American plants, a partially manual variant in two Southeast Asian plants where sensor retrofitting is not yet complete, and a China-specific variant incorporating additional regulatory inspection steps required under local pharmaceutical-adjacent manufacturing rules. This finding, generated in Phase B, directly prevents a Phase C design error: the data architecture is designed from the outset with a configurable inspection-step model rather than a fixed global schema that would have required expensive rework once the Southeast Asian and China variants surfaced during Phase E delivery.

The Data Sovereignty Impact Map (Phase C) confirms that the predictive-quality AI model, if trained on pooled data from all 22 plants, would constitute a cross-border transfer from China requiring a specific lawful transfer mechanism not currently in place, and would separately trigger EU AI Act “high-risk” tiering because the model's output directly affects a product-

release decision. Both findings propagate: the China plants' data is excluded from the initial pooled training set (an architecture decision, not merely a legal footnote), and the AI capability's governance documentation is scoped from Phase C onward to meet high-risk-tier requirements rather than retrofitted at deployment.

11.3 Phases D through H

Phase D confirms that the enterprise's chosen cloud provider offers a sovereign, in-country hosting option for the China cluster, avoiding a previously-identified risk that no compliant hosting option existed — a finding that, had it come out negatively, would have forced a fundamental Phase C data-architecture rework. Phase F sequencing places the German and other EU plants in the second migration wave, after works-council consultation (identified and time-boxed back in Phase B) is formally complete, and places the China cluster last, after the sovereign hosting build-out and the separate lawful-transfer-mechanism work converge. Phase G tracks seventeen architecture-conformance deviations across the program; two, both in the Southeast Asian delivery region, are traced (via the mandatory downstream-impact field) to a shared root cause — a misunderstanding of the configurable inspection-step model — and are resolved once, rather than as two unrelated defects. Eighteen months into steady-state operation, Phase H's regulatory-change monitoring flags an update to the EU AI Act's implementing guidance affecting high-risk-tier documentation requirements; because the AI capability was scoped to high-risk-tier from Phase C, the required update is a documentation refresh rather than a re-architecture, and the finding is resolved without triggering full ADM re-entry.

12. Reusable Templates and Checklists

The following templates operationalize the method described in this paper. They are designed to be implemented in whichever EA repository or governed spreadsheet environment the enterprise already uses; the schema, not the tooling, is the reusable asset.

12.1 Impact Register — core schema

Field	Purpose
Finding ID	Unique identifier; parent-child field to preserve propagation-chain linkage (Section 5.1)
ADM Phase of origin	Which phase generated the finding
Taxonomy dimension(s)	One or more of the six dimensions in Figure 2
Affected market(s) / region(s)	Specific jurisdictions, not “global” by default — forces explicit scoping
Description	Plain-language statement of the finding
Severity (H/M/L)	Per the heat-map scoring convention in Section 6
Reach	Single market / market cluster / global template (Section 8.2)
Reversibility	Reversible / partially reversible / irreversible (Section 8.2)
Escalation status	Local resolution / escalated / ARB-reviewed / re-baselining approved
Linked requirement ID(s)	Bidirectional traceability into the requirements repository (Section 4.10)
Owner	Named individual, not a role or team alone
Status and next review date	Drives the cadence model in Section 8.3

12.2 Six-dimensional impact assessment checklist (per material decision)

- Business & Operating Model: capability, process, org-design, decision-rights, and sourcing impact assessed and recorded, even where the finding is ‘no material impact’
- Regulatory, Legal & Tax: data-sovereignty, sector-regulation, labor-consultation, and tax/transfer-pricing impact assessed jointly with Legal and Tax

- Data & Application: master-data, portfolio-rationalization, interface, and (where relevant) AI/ML provenance impact assessed
- Technology & Infrastructure: hosting-region, latency, resilience, and identity/security impact assessed
- Financial & Commercial: capex/opex, currency, contract, and benefits-timing impact assessed on a consistent basis
- Cultural & People: localization depth, sponsorship, change-readiness, and labor-relations impact assessed by market, not assumed uniform
- Propagation: minimum two-hop forward trace performed from every finding scoring Medium or higher on any dimension
- Register: finding logged in the federated Impact Register with full schema (Section 12.1) before the phase gate is closed

12.3 Phase-gate impact-analysis sign-off (RACI pattern)

Activity	Responsible	Accountable	Consulted	Informed
Six-dimensional taxonomy re-run at phase gate	Domain Architects	Chief Architect	Legal, Tax, HR, Regional Leads	ARB, Sponsor
Materiality threshold assessment	Enterprise Architect	ARB Chair	Domain Architects	Sponsor, PMO
Re-baselining decision	ARB	Chief Architect	Sponsor, affected Regional Leads	Full governance forum
Impact Register update and cadence compliance	Regional Architecture Leads	EA PMO	Domain Architects	ARB

13. Conclusion

Large-scale, multi-national digitization programs do not fail primarily because architects design the wrong target state; they fail because the consequences of getting there are traced too narrowly, too late, or only once. This paper has argued for **treating impact analysis as a continuous, structured discipline — anchored to a six-dimensional taxonomy, executed with proportionate rigor at every phase of the TOGAF ADM** from the Preliminary Phase through Architecture Change Management, and governed by explicit ownership, materiality thresholds, and cadence rather than left to accumulate informally in program folklore.

The discipline pays for itself asymmetrically: the cost of a properly resourced impact-analysis practice is a fraction of program budget, while the cost of a single late-discovered regulatory constraint, mis-modeled works-council consultation, or silently eroded business case routinely runs to a material percentage of total program cost and, more damagingly, to months of schedule and credibility with sponsors and regulators alike. For enterprise, domain, and solution architects operating at multi-national scale, the six-dimensional taxonomy, the phase-by-phase questions and deliverables in Section 4, and the governance model in Section 8 are offered as a directly usable starting point — to be calibrated, not adopted uncritically, against the specific regulatory clusters, operating model, and risk culture of the enterprise applying them.

Appendix A — Reference Sources

This paper draws on and is intended to be used alongside the following primary sources, which practitioners should treat as authoritative on their respective subjects:

- The Open Group, The TOGAF Standard, 10th Edition — the authoritative source for the ADM structure, phase objectives, and Requirements Management referenced throughout Section 4
- Svyatoslav Kotusev, The Practice of Enterprise Architecture — for the distinction between EA-as-decision-making-discipline and EA-as-documentation-exercise that underlies this paper's treatment of impact analysis as a living practice rather than a gate artifact
- Jeanne W. Ross, Peter Weill, and David C. Robertson, Enterprise Architecture as Strategy — for the operating-model framing (particularly the distinction between global standardization and local variation) applied throughout Section 4.3 and Section 9
- Regulation (EU) 2016/679 (General Data Protection Regulation) and Regulation (EU) 2024/1689 (the EU AI Act) — primary sources for the regulatory impact considerations in Sections 4.4, 4.5, and 9.1; practitioners should consult current official guidance directly, as implementing guidance continues to evolve
- Relevant national works-council and employee-consultation statutes in each operating jurisdiction — necessarily consulted locally with qualified labor counsel per market rather than summarized generically, given the material variance in scope and consequence described in Section 9.2

This paper is an independent practitioner reference prepared by Digital Enterprise Architecture Advisors. It does not constitute legal, tax, or regulatory advice; findings in the regulatory, legal, tax, and labor-relations dimensions of the taxonomy in Section 3 should always be validated with qualified counsel in each relevant jurisdiction before being relied upon in program governance decisions.