Data Domain Guide

Make important data accountable, trusted, safely usable, reliably connected, and useful.

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How to use this guide

Use the opening sections for the domain view. Use the capability sections to understand definitions, boundaries, outputs, evidence, measures, and maturity. Use the final sections to support assessment, planning, and implementation.

01 Purpose and Use of This Master

This document captures the working definition of the TIO Data Capability Domain and its five constituent capabilities.

This is a master definition document. It should support framework writing, capability assessment, statement of work design, workshop design, maturity scoring, roadmap development, service design, and future translation into assessment and planning tools.

02 TIO Data Domain

Data Domain in TIO framework speaks to the organization's ability to make important information accountable, trusted, safely usable, reliably connected, and useful for decisions, automation, AI, and value.

In TIO, Data is an enterprise capability. It brings business accountability, quality, safe use, reliable movement, and decision-ready evidence together so information can support the whole organization.

Data gives Leadership evidence it can trust, Technology clear requirements, Factory dependable inputs for AI Use Cases and automation, and People information they can use with confidence.

Domain Role

- Make accountability for important data visible across the enterprise.
- Define what trusted and fit-for-purpose data means for important uses.
- Make safe data use easier for people, systems, reports, automations, and AI Use Cases.
- Make important data movement visible, reliable, controlled, and traceable.
- Turn trusted data into evidence that improves decisions, action, learning, and value.
- Apply enterprise governance, risk, privacy, security, and records rules to real data work.

Domain Operating Logic

Ownership assigns. Quality proves. Access enables. Flow connects. Insight informs.

Domain Principles

- Data serves enterprise direction and real work. It is not an end in itself.
- Business accountability must remain visible. Technology cannot own the meaning or acceptable use of business data by itself.
- Not all data needs the same attention. Start with the data that matters most to strategy, operations, risk, reporting, automation, AI Use Cases, and value.
- Data quality means fit for purpose, not perfect everywhere.
- Safe use should be easy through approved paths. Unsafe or unapproved use should be difficult.
- Important data movement should be visible from source to use, including major changes and handoffs.
- Dashboards and AI outputs are not insight unless they improve a decision, action, or result.
- Governance is designed in Leadership and applied through Data ownership, rules, reviews, and escalation paths.
- Data work must be understandable enough for leaders to govern and practical enough for teams to use.
- Each capability must be evidenced, measured, improved, and buildable.

The Five Data Capabilities

Capability	What it does	Plain-English outcome
Ownership	Assigns clear accountability for important data.	People know who owns the meaning, quality, access, use, issues, and improvement of important data.
Quality	Proves whether important data is fit for purpose.	Leaders and teams know whether data is good enough for the decision or use in front of them.
Access	Makes the right data safely usable by the right people and systems.	Useful data is easier to use safely, while sensitive or prohibited use is controlled.
Flow	Makes important data move reliably from source to use.	Reports, workflows, automations, and AI Use Cases are less dependent on manual copying and hidden fixes.
Insight	Turns trusted data into evidence, decisions, action, and learning.	Data changes what leaders and teams decide, do, and improve.

2026.08 ALIGNMENT | Data in the refreshed TIO system

Primary outcome contribution: Intelligence and Enterprise Autonomy

- Data is the primary capability home for Enterprise Knowledge and State: ownership, quality, access, flow, provenance, current state, permitted inference, retention, portability, and recovery.
- Data use must be purpose-bound and attributable. Access to read, infer, remember, train, combine, and act are distinct permissions.
- Authoritative records remain authoritative; generated memory or model output does not silently replace them.

Evidence at managed maturity: Knowledge and state have owners, quality and freshness evidence, purpose-bound access, traceable flow, provenance, and recovery.

03 Standard Capability Definition Template

Each TIO capability should use the same structure, so the full framework stays consistent and easy to translate into tools, assessments, workshops, and statements of work.

Required Capability Structure

- Capability title: one-word name wherever possible.
- Short definition: what the organization must be able to do repeatedly.
- Plain-English Test: a simple question a senior leader can understand.
- Description: plain-English explanation of why it matters and how it works.
- Why it matters: the client problem this capability solves.
- Five behaviors: the repeatable actions that make the capability real.
- What this capability owns and does not own: boundary protection.
- What people actually do: the day-to-day activities and roles that make the capability real.
- Real-world example: a practical example without client identifiers.
- Practical outputs: no more than three concrete deliverables, routines, or artifacts.
- Evidence of maturity, useful measures, maturity model, owners, service connection, and boundary notes.
- SOW Test, top-down validation, and bottom-up validation.

Practicality Standard and SOW Test

- Every TIO capability must be simple to name, clear to define, practical to build, observable in operation, measurable in maturity, and useful enough to scope into real work.
- Every capability must pass the SOW Test: Could a client hire someone to help build this capability, and would both parties understand the expected outputs?
- Every capability must produce no more than three practical outputs. This keeps the framework useful, memorable, and deliverable.
- Every capability must include What People Actually Do and a Real-World Example so non-technical executives can see how the capability works in practice.
- Each capability must be validated from the top down and from the bottom up before it is treated as stable.

04 Ownership

Short Definition: Ownership is the organization's ability to assign clear accountability for important data, including its meaning, quality, access, use, issues, and improvement.

Plain-English Test: Do people know who owns each important data domain, definition, quality issue, access decision, and improvement action?

Description

Ownership makes accountability visible. It clarifies who defines important data, who approves its use, who decides what good enough means, who resolves issues, and who improves the source process.

A mature Ownership capability keeps accountability close to the business process that creates or relies on the data. It does not ask one executive or a data team to personally own everything. It gives each priority data domain a real owner with authority, support, and an escalation path.

Why It Matters

- Without Ownership, data problems become everyone's frustration and no one's responsibility.
- Ownership gives Quality, Access, Flow, and Insight a clear business decision-maker.
- It reduces arguments about definitions, unresolved access requests, recurring defects, and local workarounds.

Five Behaviors

Behavior	Meaning
Name	Name the accountable owner for each priority data domain, data set, definition, or critical data element.
Define	Agree the business meaning, calculation rules, authoritative source, and important use limits.
Assign	Assign responsibility for quality, access approval, issue resolution, and improvement actions.
Resolve	Create a clear path for ownership gaps, conflicting definitions, and unresolved data issues.
Improve	Review ownership as strategy, systems, processes, AI Use Cases, automation, and risk change.

What This Capability Owns

- Priority data domains and accountable business owners.
- Critical business definitions and authoritative-source decisions.
- Responsibility for quality, access, use, issue resolution, and improvement.
- Data issue escalation and decision paths.
- Regular review of ownership as use and risk change.

What This Capability Does Not Own

- Enterprise governance design and risk posture.
- Technical platform, database, or integration administration.
- All data cleanup and remediation work.
- Every report, dashboard, or analytics product.
- A committee or data catalog without active business accountability.

What People Actually Do

People make Ownership real by connecting authority, business meaning, stewardship, technical knowledge, and issue resolution.

Role	What they actually do
Executive Sponsor	Sets the importance of data accountability, resolves major cross-enterprise conflicts, and supports owner authority.
Business Data Owner	Owns meaning, acceptable use, quality expectations, priority issues, and improvement decisions for a data domain.
Data Steward	Maintains definitions, coordinates issues, prepares evidence, and supports day-to-day ownership routines.
Process and System Owners	Explain how data is created, changed, stored, and used in real work and systems.
Technology, Risk, Privacy, Security, Analytics, and Factory	Provide technical, control, evidence, and use-case expertise while business accountability remains clear.

Simple activity flow

1. Identify the data needed for an important decision, report, workflow, automation, or AI Use Case.
2. Define the data domain, critical elements, meaning, authoritative source, and major uses.
3. Name the accountable owner and supporting stewards, process owners, and system owners.
4. Assign quality, access, issue, and improvement responsibilities with an escalation path.
5. Review ownership as systems, work, regulation, risk, and data use change.

Real-World Example

A service organization has several versions of customer, contract, and site information. Reports disagree, access requests wait, and teams correct records in spreadsheets before important reviews.

Ownership names an executive owner for customer data, agrees critical definitions and authoritative sources, assigns stewardship and issue responsibility, and creates an escalation path. In practice, people know who can decide and problems stop circulating without resolution.

Practical Outputs

Output	What it contains
Data Ownership Map	A practical view of priority data domains, accountable owners, stewards, process and system owners, major uses, and unresolved gaps.
Critical Data Definitions	Agreed business terms, calculation rules, authoritative sources, acceptable uses, and known limitations for priority data.
Data Issue Escalation Path	A simple route for ownership gaps, conflicting definitions, unresolved quality issues, access decisions, and cross-functional disputes.

Evidence of Maturity

- Priority data domains and owners are documented.
- Critical definitions and authoritative sources are agreed.
- Owners approve important access and use decisions.
- Quality and data issues are assigned to named people.
- Escalation paths are used when issues exceed local authority.
- Ownership is reviewed when systems, processes, or use cases change.
- Data decisions and unresolved exceptions are recorded.

Useful Measures

Measure	What it tells us
Ownership coverage	Percentage of priority data domains and critical elements with an active accountable owner.
Decision responsiveness	Time required to resolve definition, access, quality, or ownership decisions.
Issue accountability	Percentage of material data issues with a named owner, due date, status, and closure evidence.

Maturity Model

Level	Maturity Description
0 Absent	No clear ownership exists for important data, definitions, quality, access, or improvement.
1 Initial / Ad-Hoc	Informal owners exist, but accountability depends on individual knowledge and escalation.
2 Repeatable	Owners, definitions, approvals, and issue responsibilities are repeatable for selected priority data.
3 Defined	Ownership is documented, communicated, and used consistently for priority data.
4 Managed	Ownership is measured, reviewed, and connected to governance, investment, and source improvement.
5 Optimized	Ownership adapts continuously as strategy, systems, risk, and data use change.

Typical Owners and Participants

Role	Typical participants
Executive sponsor	CEO, COO, CFO, CIO, Chief Data Officer, business unit executive, or equivalent.
Accountable owners	Business executives, process owners, functional leaders, data owners, or product owners.
Participants	Data stewards, system owners, analysts, Technology, Risk, Privacy, Security, Legal, Records, Factory, and business users.

Domain Boundary Notes

- Ownership assigns accountability for important data and data decisions.
- Leadership owns enterprise governance design, decision rights, risk posture, and exception authority.
- Technology owns systems, platforms, technical controls, and integration implementation.
- Quality, Access, Flow, and Insight use Ownership decisions to make data trustworthy, usable, connected, and useful.

SOW Test

PASS: A client could hire support to identify priority data, name owners, agree definitions, assign responsibilities, and build an escalation path. The outputs are clear and buildable.

Top-Down Validation

Executives can see who owns important data, where gaps create risk or delay, and which decisions require escalation.

Bottom-Up Validation

Teams can see who defines data, approves use, fixes issues, and resolves unclear responsibility.

05 Quality

Short Definition: Quality is the organization's ability to make important data accurate, complete, timely, consistent, unique, and fit for purpose.

Plain-English Test: Can the organization prove that the data used for decisions, reporting, automation, and AI Use Cases is good enough for that use?

Description

Quality defines what good enough means for the specific use of important data. It sets simple rules, checks the data, exposes defects, assigns remediation, and records whether the data is ready, ready with limits, or not ready.

A mature Quality capability does not try to clean all data everywhere. It focuses attention on the fields, records, and data domains that matter most to real decisions, reports, controls, workflows, automation, AI Use Cases, customers, and employees.

Why It Matters

- Without Quality, leaders argue about which number is right and teams clean data manually before important work.
- Poor data can break automation, weaken AI outputs, distort risk controls, and damage customer or employee trust.
- Quality makes defects, thresholds, ownership, remediation, and use-case readiness visible before scale.

Five Behaviors

Behavior	Meaning
Define	Agree what good enough means for the specific use of the data.
Check	Test priority data against simple rules and thresholds.
Expose	Make defects, trends, impact, and readiness visible before important use.
Fix	Assign issues to owners and correct the highest-value defects at the source.
Improve	Use quality evidence to improve rules, systems, processes, training, and decisions.

What This Capability Owns

- Fit-for-purpose quality definitions for priority data and uses.
- Quality rules and thresholds for critical fields and records.
- Checks, scorecards, defect visibility, and readiness decisions.
- Assignment and tracking of material remediation actions.
- Learning that prevents recurring defects at the source.

What This Capability Does Not Own

- Cleaning all data everywhere or making every data set perfect.
- A one-time data cleanup or profiling exercise.
- Data platforms, warehouses, lakes, or tools by themselves.
- Technical fixes without business ownership and use context.

- The final business decision to proceed despite known data limitations.

What People Actually Do

People make Quality real by defining fitness, checking data, deciding readiness, and fixing material defects.

Role	What they actually do
Executive Sponsor	Prioritizes decisions and uses that require trusted data and supports remediation.
Business Data Owner	Defines acceptable quality, decides readiness, and owns material trade-offs.
Data Steward or Analyst	Creates rules, runs checks, explains defects and trends, and maintains the scorecard.
Process and System Owners	Find defect causes and improve source work, controls, validation, or configuration.
Technology, Risk, Privacy, Security, and Factory	Support profiling, controls, remediation, monitoring, and safe use in reporting, automation, and AI.

Simple activity flow

1. Start with an important report, decision, workflow, automation, or AI Use Case.
2. Identify the critical data fields and agree simple quality rules and thresholds.
3. Check the data through sampling, profiling, reconciliation, or source-system tests.
4. Decide whether the data is ready, ready with limits, or not ready and assign material fixes.
5. Track remediation and improve the source process when defects recur.

Real-World Example

A field services company wants an operations dashboard using service ticket, technician, client, work-order, and invoice data. Tests find missing close dates, duplicate clients, unlinked invoices, and inconsistent status values.

Operations, Finance, and Technology agree which defects block use, which need warnings, and which must be fixed at source. Quality makes the dashboard, automation, or AI Use Case more trustworthy.

Practical Outputs

Output	What it contains
Data Quality Rules	Owned, testable rules that define fit-for-purpose quality for priority data.
Data Quality Scorecard	Defects, trends, thresholds, owners, impact, and readiness for important data.
Data Quality Remediation Plan	Material defects, source causes, owners, actions, dates, status, and closure evidence.

Evidence of Maturity

- Quality rules exist for priority data and critical fields.
- A current quality scorecard is used in decisions.
- Owners and thresholds are clear for important uses.
- Data is checked before major reports, automations, and AI Use Cases go live.
- Readiness decisions are recorded as ready, ready with limits, or not ready.
- Remediation actions are assigned and tracked.
- Recurring defects lead to source-process or system improvements.

Useful Measures

Measure	What it tells us
Use-case readiness	Percentage of priority reports, automations, and AI Use Cases with an evidenced readiness decision.
Defect closure	Age and closure rate of material data defects and remediation actions.
Recurring defect rate	Frequency with which the same defect returns because the source process has not been fixed.

Maturity Model

Level	Maturity Description
0 Absent	Data quality is not meaningfully managed. Defects are discovered through complaints, reconciliation, failed reports, or broken work.
1 Initial / Ad-Hoc	Some teams check or clean data, but work depends on individuals, local spreadsheets, and manual effort.
2 Repeatable	Basic rules and checks exist for selected priority data. Defects are visible and assigned for correction.
3 Defined	Quality is documented, owned, communicated, and used consistently for priority data and important uses.
4 Managed	Quality is measured, reviewed, connected to governance and value decisions, and improved at the source.
5 Optimized	Quality continuously improves, reduces repeat defects, and helps the organization scale trusted decisions, automation, and AI faster.

Typical Owners and Participants

Role	Typical participants
Executive sponsor	CEO, COO, CFO, CIO, Chief Data Officer, business unit executive, or equivalent.
Accountable owners	Business data owners, process owners, functional leaders, and reporting or service owners.
Participants	Data stewards, analysts, system owners, Technology, Risk, Privacy, Security, Finance, Operations, Factory, and users.

Domain Boundary Notes

- Quality proves whether important data is fit for the intended use.
- Ownership names who is accountable for quality expectations, decisions, and remediation.
- Technology provides tools and implements technical fixes; Factory uses readiness evidence in AI Use Cases and automation.
- Leadership sets risk posture and governance; business owners decide whether known limitations are acceptable.

SOW Test

PASS: A client could hire support to define quality rules, test priority data, create a scorecard, decide readiness, and build a remediation plan. The expected outputs are clear and buildable.

Top-Down Validation

Executives can see which important data is trusted, where defects threaten value or risk, and whether remediation priorities are improving readiness.

Bottom-Up Validation

Teams can see what good enough means, how data will be checked, who owns defects, what must be fixed, and whether the data is safe to use.

06 Access

Short Definition: Access is the organization's ability to let the right people, systems, reports, automations, and AI Use Cases use the right data safely, appropriately, and efficiently.

Plain-English Test: Can the right people, systems, and AI Use Cases get the data they need without exposing data they should not use?

Description

Access balances value and protection. It classifies important data, defines who may use it and why, creates approved access paths, limits inappropriate use, and reviews access as roles, vendors, projects, systems, and AI Use Cases change.

A mature Access capability avoids two equal failures: locking useful data down until work stops, and opening data so widely that privacy, security, records, legal, contractual, or trust obligations are exposed. The practical aim is to make safe use easy and unsafe use hard.

Why It Matters

- Without Access, people wait, duplicate work, export spreadsheets, or make decisions from partial information.
- Weak access controls can expose sensitive customer, employee, financial, operational, resident, or regulated data.
- Clear access lanes help useful reporting, automation, analytics, and AI Use Cases move faster with fewer trust disputes.

Five Behaviors

Behavior	Meaning
Classify	Describe the sensitivity, purpose, obligations, and acceptable use of priority data.
Approve	Name who can authorize people, systems, vendors, automations, and AI Use Cases to use it.
Enable	Create practical approved paths that provide the right data in the right form and time.
Limit	Restrict, mask, aggregate, isolate, or prohibit use where exposure is not justified.
Review	Recheck access as roles, employment, vendors, projects, systems, risks, and use cases change.

What This Capability Owns

- Practical classification of priority data.
- Business rules for who may use data, for what purpose, and under what conditions.
- Approved access lanes for people, systems, reports, vendors, automation, and AI Use Cases.
- Regular review of access and removal of outdated permissions.
- Data-use exceptions and escalation in partnership with Governance, Risk, Privacy, Security, and Legal.

What This Capability Does Not Own

- Enterprise identity, security architecture, or technical permission tooling by itself.
- All privacy, legal, contractual, regulatory, or records interpretation.
- Data quality, ownership, or flow by itself.
- A blanket rule that all data is open or all data is restricted.
- Permanent approval that is never reviewed when context changes.

What People Actually Do

People make Access real by connecting business need, data sensitivity, approval authority, technical controls, and regular review.

Role	What they actually do
Executive Sponsor	Sets expectations for safe data use, resolves major trade-offs, and supports timely decision-making.
Business Data Owner	Approves appropriate use, sets conditions, and decides whether the business purpose justifies access.
Privacy, Security, Legal, Risk, and Records Leads	Interpret obligations, define restrictions, and review sensitive, high-impact, or exceptional uses.
Technology and System Owners	Implement identities, permissions, approved environments, logging, masking, and access removal.
Users, Analysts, Vendors, and Factory Teams	Request access for a clear purpose, use approved paths, protect the data, and report misuse or changed needs.

Simple activity flow

1. Start with a real data need and identify the people, systems, reports, automation, or AI Use Case involved.
2. Classify the data and confirm the purpose, sensitivity, obligations, and minimum data required.
3. Name the approver, conditions, duration, review date, and any prohibited uses.
4. Implement the approved access path, technical controls, logging, and user guidance.
5. Review access when roles, vendors, projects, systems, risk, or purpose change.

Real-World Example

A human resources team wants to use employee data in an AI assistant to answer policy questions and help managers prepare workforce plans. The data includes public policies, internal guidance, personal details, performance information, and medical accommodation records.

Access classifies the data, approves public and internal policy content for the assistant, limits personal data to named workflows, prohibits sensitive medical data, and establishes logging and review. Managers get useful support without treating every employee record as equally safe to use.

Practical Outputs

Output	What it contains
Data Classification Guide	A simple classification model that explains sensitivity, obligations, acceptable use, prohibited use, and handling expectations.
Data Access Rules	Clear rules for who or what may use priority data, for which purpose, under what conditions, and with which approvals.
Access Review Process	A recurring method to review permissions, vendor access, service accounts, AI use, exceptions, and removal when needs change.

Evidence of Maturity

- Priority data is classified in a way people understand.
- Access decisions have named business approvers and purpose.
- Approved access lanes exist for common reporting, analytics, automation, and AI uses.
- Sensitive or prohibited data has clear restrictions and technical controls.
- Access is removed or changed when roles, vendors, projects, or purposes change.
- Exceptions are recorded, time-limited, and escalated when needed.
- Logs, reviews, and incidents are used to improve access rules.

Useful Measures

Measure	What it tells us
Access responsiveness	Time required to approve and deliver legitimate access for priority work.
Review coverage	Percentage of priority data, systems, vendors, and service accounts included in scheduled access review.
Unsafe-use reduction	Reduction in unauthorized exports, inappropriate permissions, expired access, or data use outside approved environments.

Maturity Model

Level	Maturity Description
0 Absent	Access is unmanaged. Purpose, approval, review, and restriction are unclear.
1 Initial / Ad-Hoc	Controls exist, but decisions are local, slow, inconsistent, or person-dependent.
2 Repeatable	Basic classifications, approvals, and access paths exist for selected priority data and uses.
3 Defined	Rules, roles, controls, reviews, and exceptions are documented and used consistently.
4 Managed	Access is measured, reviewed, and improved using risk, use-case, and incident evidence.
5 Optimized	Access adapts as work, regulation, technology, vendors, threats, and AI capability change.

Typical Owners and Participants

Role	Typical participants
Executive sponsor	CEO, COO, CIO, Chief Data Officer, Chief Privacy Officer, General Counsel, CISO, business executive, or equivalent.

Role	Typical participants
Accountable owners	Business data owners, privacy owners, security owners, system owners, process owners, or records owners.
Participants	Technology, identity and access teams, Legal, Risk, Privacy, Security, Records, analysts, vendors, Factory teams, managers, and users.

Domain Boundary Notes

- Access makes important data safely usable and applies data-use rules to real work.
- Leadership owns enterprise governance design, decision rights, risk posture, and exception authority.
- Technology implements identities, permissions, approved environments, monitoring, and technical controls.
- Ownership approves business use; Quality proves fitness; Flow moves approved data; People builds safe-use understanding.

SOW Test

PASS: A client could hire support to classify priority data, define access rules, design approved access lanes, clarify exceptions, and establish regular review. The expected outputs are clear and buildable.

Top-Down Validation

Executives can see whether data is enabling priority work without creating unmanaged privacy, security, legal, contractual, records, or trust exposure.

Bottom-Up Validation

Users can see what data they may use, why they may use it, how to obtain it, which environment is approved, and what to do when the need changes.

07 Flow

Short Definition: Flow is the organization's ability to move important data reliably across systems, workflows, reports, automations, and AI Use Cases with enough lineage, control, and visibility to trust the work it supports.

Plain-English Test: Can the organization trace where important data comes from, where it goes, how it changes, and whether the movement is reliable?

Description

Flow makes important data movement visible from source to use. It maps where data is created, copied, transformed, joined, delayed, manually corrected, and consumed in reports, workflows, automations, customer interactions, and AI Use Cases.

A mature Flow capability does not try to map every data movement. It starts with the flows that matter to priority work and makes them reliable, traceable, monitored, and improvable. Business leaders can understand the path, while Technology can implement the technical connections.

Why It Matters

- Without Flow, people rekey data, copy spreadsheets, reconcile reports, and depend on hidden local fixes.
- Broken or delayed movement can make dashboards disagree, automation fail, and AI Use Cases work in demos but fail in operations.
- Flow gives leaders and teams lineage, reliability, ownership, and downstream impact visibility.

Five Behaviors

Behavior	Meaning
Map	Identify the important data movements across systems, reports, workflows, automation, and AI Use Cases.
Trace	Show where data comes from, where it goes, how it changes, and what depends on it.
Connect	Build or improve approved paths for data to move reliably between systems and uses.
Monitor	Watch critical flows for failures, delays, breaks, unexpected changes, and quality issues.
Fix	Remove broken, duplicated, manual, or unreliable movement and address downstream impacts.

What This Capability Owns

- Business-visible maps of priority data movement from source to use.
- Lineage for important reports, workflows, automations, controls, and AI Use Cases.
- Identification of manual handoffs, duplicate movement, transformations, weak points, and dependencies.
- Flow health review, monitoring expectations, incidents, and priority fixes.
- Assessment of downstream impact when systems, definitions, or integrations change.

What This Capability Does Not Own

- The full enterprise technology architecture.
- Integration platforms, APIs, pipelines, databases, or infrastructure by themselves.
- Moving all data into one place.

- Documenting every minor data movement regardless of value or risk.
- Automating broken work before the process and data need are understood.

What People Actually Do

People make Flow real by combining business process knowledge, system knowledge, data lineage, technical implementation, and operational monitoring.

Role	What they actually do
Executive Sponsor	Prioritizes the reports, workflows, automations, and AI Use Cases whose data movement matters most.
Business and Process Owners	Explain the work, decisions, handoffs, timing, exceptions, and operational impact of unreliable data.
Data and System Owners	Identify sources, definitions, transformations, ownership, dependencies, and downstream consumers.
Technology, Integration, and Data Engineering	Design and operate approved connections, pipelines, monitoring, alerts, recovery, and change controls.
Analysts, Risk, Privacy, and Factory Teams	Confirm lineage, reporting use, control needs, data-use restrictions, and readiness for automation and AI.

Simple activity flow

1. Choose one important report, workflow, automation, control, or AI Use Case.
2. Map the data from source through transformations, handoffs, integrations, and manual steps to final use.
3. Confirm authoritative sources, owners, access rules, quality needs, timing, and downstream dependencies.
4. Fix the highest-value weak points and establish monitoring, alerts, and recovery ownership.
5. Review flow health and downstream impact as systems, definitions, and uses change.

Real-World Example

A service organization wants one operations view combining service tickets, work orders, technicians, clients, locations, parts, and invoices. Leaders assume the dashboard is simple, but the data comes from several systems and spreadsheets.

The Flow work reveals unmatched identifiers, daily and weekly update differences, manual technician corrections, and a spreadsheet handoff. The team agrees authoritative sources, removes one manual step, improves the connection, and establishes a flow health review. The dashboard and future AI Use Case become less fragile.

Practical Outputs

Output	What it contains
Data Flow Map	A clear visual of priority sources, destinations, handoffs, transformations, integrations, manual steps, weak points, owners, and major uses.
Lineage View	A practical source-to-use trace for the most important metrics, reports, workflows, automations, controls, or AI outputs.
Flow Health Review	A recurring review of failed movement, late updates, broken integrations, manual workarounds, downstream impacts, and priority fixes.

Evidence of Maturity

- Priority data flows and owners are documented.
- Important reports, automations, and AI Use Cases can be traced to authoritative sources.
- Manual exports, rekeying, transformations, and local fixes are visible.
- Critical flows have monitoring, alerts, support, and recovery ownership.
- Broken or delayed flows are logged, reviewed, and fixed.
- System and definition changes consider downstream impact.
- Flow reliability improves and manual handoffs decline.

Useful Measures

Measure	What it tells us
Critical flow coverage	Percentage of priority data flows mapped, owned, and connected to a real business use.
Flow reliability	Percentage of critical movements completed on time, without error, and with required freshness.
Manual handoff reduction	Reduction in exports, copy-paste steps, rekeying, reconciliation, and uncontrolled spreadsheet movement.

Maturity Model

Level	Maturity Description
0 Absent	Important data movement is invisible and depends on informal copying, exports, or rekeying.
1 Initial / Ad-Hoc	Some flows are understood, but knowledge is personal and breaks are found through complaints.
2 Repeatable	Priority flows are mapped for selected reports, systems, automations, and AI Use Cases.
3 Defined	Flow, lineage, owners, controls, and monitoring are documented and consistently used.
4 Managed	Reliability, incidents, handoffs, impacts, and improvements are measured and managed.
5 Optimized	Flow is reliable, visible, resilient, and improved as systems, work, and AI change.

Typical Owners and Participants

Role	Typical participants
Executive sponsor	COO, CIO, CFO, Chief Data Officer, business unit executive, city manager, deputy city manager, or equivalent.
Accountable owners	Business process owners, data owners, system owners, integration owners, reporting owners, or product owners.
Participants	Data stewards, analysts, architects, integration teams, data engineers, Technology, Operations, Finance, Risk, Privacy, Factory, and frontline users.

Domain Boundary Notes

- Flow owns visibility into how important data moves, changes, and supports real use.
- Technology owns integration platforms, APIs, pipelines, infrastructure, technical implementation, and operational support.
- Ownership and Quality define accountability and fitness; Access defines approved movement and use.
- Factory relies on dependable flows for AI Use Cases, automation, and value; Insight uses the data delivered by Flow.

SOW Test

PASS: A client could hire support to map priority data movement, establish lineage, identify weak points and manual handoffs, define monitoring, and create a flow health review. The expected outputs are clear and buildable.

Top-Down Validation

Executives can see which data movements support critical decisions and work, where fragility creates risk or delay, and which fixes matter most.

Bottom-Up Validation

Teams can see where data comes from, what changes it, what depends on it, who owns failures, and how to respond when the flow breaks.

08 Insight

Short Definition: Insight is the organization's ability to turn trusted data into evidence, reporting, analysis, foresight, AI outputs, and decisions that leaders and teams can use with confidence.

Plain-English Test: Can leaders and teams use data to understand what happened, what is changing, what may happen next, and what action to take?

Description

Insight starts with a decision, not a dashboard. It defines the evidence leaders need, creates a usable view, explains what changed and why, supports action, and checks whether the decision improved the result.

A mature Insight capability links data to management rhythm. Reporting, analytics, forecasts, and AI-assisted outputs are judged by whether they improve decisions, action, learning, risk understanding, and value evidence, not by how many dashboards or models exist.

Why It Matters

- Without Insight, reports multiply while decisions remain unclear and meetings end with opinion instead of action.
- Leaders may argue about numbers, track activity instead of outcomes, or use impressive AI output without enough context or review.
- Insight turns trusted data into evidence, action ownership, before-and-after learning, and better management judgment.

Five Behaviors

Behavior	Meaning
Ask	Start with the decision, action, risk, or value question that matters.
Analyze	Use trusted data to understand performance, drivers, patterns, differences, uncertainty, and likely outcomes.
Explain	Present the evidence, assumptions, limitations, and implications in language leaders and teams can use.
Act	Turn insight into a decision, named action, owner, date, and expected result.
Learn	Review what happened, update the evidence, improve the metric, and adapt the next decision.

What This Capability Owns

- Decision-focused metrics, evidence views, analysis, explanation, and review rhythm.
- Definitions, owners, source confidence, assumptions, and limitations for important measures.
- Connection of reporting, analytics, forecasts, and AI outputs to decisions and action.
- Decision logs, action ownership, follow-up, and before-and-after learning.
- Retirement or simplification of reporting that no longer helps decisions.

What This Capability Does Not Own

- Every report, dashboard, data science model, or AI output in the organization.
- Enterprise strategy, governance, risk posture, or operational accountability by itself.
- Data ownership, quality, access, or flow foundations.
- Factory delivery of AI Use Cases, automation, and work redesign.
- A claim that correlation, prediction, or generated output is automatically a business decision.

What People Actually Do

People make Insight real by connecting decision owners, data owners, analysis, operational knowledge, human judgment, action, and learning.

Role	What they actually do
Executive or Decision Owner	Defines the question, makes the decision, accepts accountability, and confirms the expected result.
Business and Process Owners	Explain operating context, constraints, drivers, trade-offs, and what action is practical.
Data Owners, Analysts, and Finance	Define measures, validate sources, analyze patterns, explain confidence, and prepare decision evidence.
Technology and Factory	Provide analytics, reporting, AI, experimentation, and value-measurement support without replacing human accountability.
Risk, Privacy, Legal, and Subject Experts	Challenge assumptions, limitations, exposure, interpretation, fairness, and high-impact decision use.

Simple activity flow

1. Pick an important decision and write the decision question in plain English.
2. Define the few metrics and evidence needed, including owners, sources, confidence, and limitations.
3. Create a simple insight view that explains what happened, what is changing, and what requires attention.
4. Use the evidence in a review meeting to decide action, assign an owner, and record the expected result.
5. Review the outcome, learn what worked, and improve the evidence and next decision.

Real-World Example

A leadership team receives a monthly customer dashboard with dozens of metrics, but meetings focus on explaining activity and debating which number is right. Service levels are falling, complaints are rising, and no one leaves with a clear decision.

Insight starts with the decision: where should leaders intervene first to improve service and protect key customers? The team defines a small set of trusted metrics, explains drivers and uncertainty, agrees three actions, names owners, and reviews results the next month. The dashboard becomes a decision tool rather than a reporting ritual.

Practical Outputs

Output	What it contains
Decision Metrics	A focused set of owned, defined, trusted measures tied to important decisions, actions, risks, and expected outcomes.
Insight Dashboard	A simple decision view showing performance, change, drivers, confidence, exceptions, and what requires attention.
Decision Review Rhythm	A recurring meeting and evidence routine that records decisions, actions, owners, expected results, follow-up, and learning.

Evidence of Maturity

- Priority decisions have clear questions and owned Decision Metrics.
- Measures have definitions, sources, owners, confidence, and known limitations.
- Insight views are used in real leadership and operating reviews.
- Decisions, actions, owners, and expected results are recorded.
- Before-and-after results are reviewed and assumptions are challenged.
- Low-value or duplicative reporting is simplified or retired.
- AI-assisted insight receives appropriate source checks and human review.

Useful Measures

Measure	What it tells us
Decision coverage	Percentage of priority decisions supported by defined metrics, trusted sources, and a review rhythm.
Action conversion	Percentage of insight reviews that produce a recorded decision, named action, owner, and follow-up date.
Learning and value	Percentage of actions with before-and-after evidence showing whether the decision improved results or reduced risk.

Maturity Model

Level	Maturity Description
0 Absent	Reports exist, but insight is not connected to decisions, action, or learning.
1 Initial / Ad-Hoc	Useful analysis exists, but depends on individuals and is not embedded in management rhythm.
2 Repeatable	Decision metrics, evidence views, and review routines exist for selected priorities.
3 Defined	Insight is documented, owned, and used consistently for priority decisions.
4 Managed	Action completion, results, and AI-output review are measured and managed.
5 Optimized	Insight continuously improves decisions, learning, adaptation, and value evidence.

Typical Owners and Participants

Role	Typical participants
Executive sponsor	CEO, COO, CFO, business unit executive, city manager, deputy city manager, or equivalent decision leader.
Accountable owners	Business decision owners, strategy and performance leads, finance leaders, operations leaders, data and analytics leaders.
Participants	Data owners, analysts, Technology, Factory, Risk, Privacy, Legal, Finance, subject experts, managers, and frontline teams.

Domain Boundary Notes

- Insight turns trusted data into evidence, action, and learning.
- Leadership owns direction, governance, risk posture, and executive decisions.
- Ownership, Quality, Access, and Flow provide the trusted foundation.
- Factory delivers improvements; Technology provides analytics and AI tools.

SOW Test

PASS: A client could hire support to define priority decisions and metrics, build an Insight Dashboard, establish a review rhythm, and connect action to value evidence.

Top-Down Validation

Executives can see whether reporting and analytics improve priority decisions and results.

Bottom-Up Validation

Teams can see which evidence matters, what action follows, who owns it, and whether results improved.

09 Data Domain Fit and Handoffs

The Data domain should be read as one connected system. The five capabilities are not separate workstreams that can mature in isolation. They depend on one another and connect to the other TIO domains.

Data capability	Primary question	Primary handoff
Ownership	Who is accountable for this important data?	Applies Leadership governance to specific data domains and gives Quality, Access, Flow, and Insight a clear decision owner.
Quality	Is the data good enough for the intended use?	Provides readiness evidence for reporting, controls, automation, AI Use Cases, and high-value decisions.
Access	Can the right people and systems use the data safely?	Connects business need to privacy, security, legal, records, risk, and Technology controls.
Flow	Can the data move reliably from source to use?	Connects Data to Technology integration and supplies dependable inputs to reporting, Factory, and operations.
Insight	Does the data improve a decision, action, or result?	Connects Data to Leadership decisions, Factory value evidence, operating reviews, and organizational learning.

Domain Interaction With Other TIO Domains

Domain	How Data connects
Leadership	Leadership sets enterprise direction, governance design, risk posture, decision rights, and accountability. Data applies those choices through ownership, quality thresholds, access rules, evidence, and escalation.
Technology	Technology provides systems, platforms, storage, integration, identity, security, analytics, AI services, and monitoring. Data defines the business accountability, trust, use, lineage, and evidence those technologies must support.
Factory	Factory turns improvement ideas, AI Use Cases, automation opportunities, and work redesign into measured value. Data provides accountable, fit-for-purpose, safely accessible, reliably connected inputs and decision evidence.
People	People helps employees and managers understand, use, question, protect, and adapt to data-enabled ways of working. Data must be understandable, usable, appropriately protected, and supported by clear accountability.

Working Summary

Data is the enterprise capability that turns information into trusted organizational evidence. Ownership assigns accountability. Quality proves fitness. Access enables safe use. Flow connects source to use. Insight informs decisions and action. The Data domain is mature when important data has clear owners, defined quality, practical access, reliable movement, and a visible connection to decisions, automation, AI, risk, learning, and value.