NORTHERN LOGIC AI

MANAGED AI OPERATIONS FIELD GUIDE

The Managed AI Operations Blueprint: A Nontechnical Architecture for a Company-Specific AI System

A practical blueprint for connecting business goals, structured company knowledge, specialized AI assistants, approved tools, human review, and ongoing management.

ASSESS	BUILD	OPERATE
Find the value	Create the system	Keep it useful

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Use this paper as a working reference for business decisions. The architecture is intentionally nontechnical: it names the goals, knowledge, responsibilities, controls, and operating practices that should exist around the technology.

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> **The central idea: company knowledge gives the system context, business goals give it direction, people keep consequential decisions, and managed operations keeps the whole system visible and improving.**

This publication provides general business and design guidance. It is not legal, financial, clinical, employment, or security advice for a specific organization.

Managed AI Operations is the discipline of turning AI capabilities into a company-specific operating system. It connects business goals, approved company knowledge, specialized AI assistants, existing software, human decisions, and ongoing management. The result is not another chat tool. It is a visible, bounded system that helps the existing team move valuable work forward.

For this paper, an **AI agent** means software that can use an AI model to plan steps and work with connected tools. From here on, we use **specialized AI assistant** because the useful business design is a defined responsibility with clear ownership, not an open-ended claim of autonomy.

The core service model is simple:

> **Assess → Build → Operate**

- **Assess** where AI can create meaningful value and where it should not be used.
- **Build** the knowledge, roles, connections, tests, and controls around one useful result.
- **Operate** the system through goals, tasks, schedules, review, measurement, correction, and improvement.

This is an architecture for owners and operators, not a technical product specification. It explains what must exist around the technology for AI to become a dependable business capability.

01 Executive view: the complete managed system

A company-specific AI system has six connected layers. Each layer answers a different management question.

Layer	Management question	What should exist
1. Business direction	What result matters, and who owns it?	Goals, priorities, process owners, success measures
2. Company knowledge	What should the system know and trust?	Approved sources, examples, rules, definitions, ownership, review dates
3. Specialized roles	What preparation or coordination should each assistant handle?	Role cards, triggers, outputs, boundaries, escalation paths
4. Tools and work flow	Where does the work happen?	Approved connections, task routes, schedules, handoffs, fallback paths
5. Human control	Which decisions and actions stay with people?	Review gates, permission scopes, approval owners, pause controls
6. Managed operation	How does the system stay useful?	Logs, issue review, value measures, budgets, tests, changes, improvement plan

Read the architecture from top to bottom and then back up again:

> **Business goals → prioritized work → specialized AI assistants → approved knowledge and tools → human review → useful result → measurement → improved goals and work**

The loop matters. AI systems, company information, software, and operating priorities change. A useful system needs a way to notice those changes and adapt deliberately.

The ISO/IEC 42001 AI management system standard describes an organizational system of policies, objectives, and processes for responsible AI use and emphasizes continual improvement. Its official overview uses a Plan, Do, Check, Act cycle. Northern Logic's Assess, Build, Operate model is a service-oriented translation of the same practical truth: launch is one point in an operating lifecycle, not the finish line.

02 Why a collection of AI features is not an operating system

Built-in AI features can be very useful. If a task begins and ends inside one application, the best answer may be to configure the feature already available. A connected system is justified when the result depends on several tools, shared company knowledge, a schedule or business event, multiple review points, and continued management.

Consider a client renewal review. One product may summarize CRM notes. Another may summarize support tickets. A third may draft an email. The business result, however, is a decision-ready renewal brief that brings together current terms, delivery status, support history, open commitments, relationship context, and next decisions. It also needs an account owner who judges the recommendation and owns the customer conversation.

The product features are components. The managed system defines:

- Which sources are authoritative.
- Which assistant prepares each part.
- How the work begins and moves.
- What happens when information conflicts.
- Which actions remain proposals.
- Who approves consequential work.
- How quality, cost, and value are reviewed.
- Who changes the system when the business changes.

The guide to built-in AI versus a connected business system provides a detailed decision matrix. The principle here is to use the least complex option that can produce the complete business result.

03 The 2026 business context

The U.S. Census Bureau's 2026 AI supplement provides a useful reality check. Its working paper on AI diffusion reported that 18% of firms used AI in a business function during the November 2025 to January 2026 reference period. Among firms using AI, 57% reported use in three or fewer business functions.

Those figures do not determine what any one company should do. Our inference is that most operators should focus on one bounded business capability, learn how to manage it, and expand from evidence. A long list of possible uses is not the same as an operating plan.

04 Six design principles

1. Start with the business result

Lead with a result someone can recognize and judge:

- A complete project launch package.
- A sourced internal answer.
- An operations exception brief.
- A decision-ready account review.
- A document prepared for qualified review.

Avoid starting with a model, vendor, connector, or general desire to "use AI." Technology should follow the job.

2. Give every assistant a bounded role

Each specialized AI assistant should have a written mission, trigger, approved inputs, output, tools, prohibited actions, review path, and business owner. If a role cannot be stated on one page, it is probably too broad for a first implementation.

3. Build shared company context

Assistants should not depend on separate, drifting copies of company guidance. They need a structured company knowledge foundation with approved sources, visible ownership, and a maintenance path. Shared knowledge lets the company correct a source once and improve several roles.

4. Keep consequential decisions with qualified people

AI can gather, compare, draft, monitor, and propose. People should remain responsible for customer commitments, financial decisions, access changes, employment actions, legal or clinical judgment, safety decisions, and other work where the consequence requires qualified accountability.

5. Make the work visible

Owners need to see goals, queued tasks, completed work, exceptions, approvals, cost, and changes. A hidden assistant that appears only when it fails is not a managed capability.

6. Improve from reviewed evidence

Store representative tests, correction patterns, issue history, and approved changes. Improvement should come from reviewed work, not from adding more features because they are available.

05 Phase 1: Assess where AI belongs

Assessment protects the company from solving the wrong problem. The job is to find one opportunity where AI can make a meaningful difference and compare it with simpler options.

Map the current work

Follow representative cases from trigger to completed result. Record:

- The process owner and people involved.
- The systems and sources used.
- Active handling time and wait time.
- Repeated copying, searching, and re-entry.
- Known exceptions and judgment points.
- Current quality checks and failure patterns.
- Customer, financial, or operating consequences.
- The fallback when information or tools are unavailable.

Score the opportunity

Use a simple evidence-based scorecard:

Factor	Weak signal	Strong signal
Frequency	Rare or unpredictable	Frequent and steady
Business value	Convenience	Clear constraint, service, or capacity effect
Process clarity	Different every time	Stable path with known exceptions
Knowledge readiness	Sources unknown	Approved sources and owners can be named
Judgeability	Output quality is unclear	A qualified person can assess the result
Action risk	High-impact execution is central	Preparation-first or reversible scope
Ownership	No accountable owner	One owner can make decisions and review value

This score does not produce a financial forecast. It helps compare candidates. The AI readiness assessment guide shows how to decide where to begin, while the AI ROI guide explains how to baseline value and full operating cost.

Compare five paths

Every assessed opportunity should end with one of these recommendations:

1. Improve the process without adding technology.
2. Configure a feature in an existing product.
3. Use rule-based automation for a predictable handoff.
4. Build a specialized AI assistant or connected system.
5. Leave the work with people or defer it.

An AI Opportunity Audit should make these tradeoffs explicit. It should not assume every problem requires a custom build.

Assessment outputs

At the end of the phase, the owner should have:

- A named business result and owner.
- A current-state workflow and baseline.
- A shortlist of options.
- A recommended first scope.
- Known data, access, and review concerns.
- An initial value model.
- A decision to build, configure, improve, defer, or stop.

06 Phase 2: Build the complete narrow system

The build phase should produce the smallest complete operating route. A narrow system with knowledge, controls, testing, and ownership is more useful than several disconnected demonstrations.

The role card

Create one role card for each specialized AI assistant.

Field	Example question
Mission	What result does this role prepare?
Trigger	What schedule, event, or approved request starts work?
Inputs	Which sources, records, and examples may it use?
Tools	Which exact read or action functions are required?
Output	What format, fields, and source links make the result complete?
Boundaries	What information, requests, and actions are prohibited?
Review	Who checks the output, and what must they verify?
Escalation	What should stop the work and route it to a person?
Owner	Who owns the business result and role changes?
Measures	How will value, quality, cost, and adoption be reviewed?

The knowledge map

List the procedures, definitions, examples, decisions, templates, policies, and operational records required for the role. For each, identify the authoritative source, owner, access class, effective date, and review cadence. Resolve or surface conflicts instead of asking the assistant to guess.

The companion whitepaper, From Scattered Information to Shared Business Memory, provides the full knowledge architecture.

The action and permission matrix

Separate what the system can do inside every connected tool.

Capability	Default first-scope posture
Read approved records	Allow only where required
Search approved sources	Allow within defined collections
Create a draft	Allow with visible status
Create a task or record	Allow when reversible and logged
Change an existing record	Limit to named fields and cases
Send a message	Keep behind approval at first
Approve, pay, grant access, or delete	Keep with qualified people

The OWASP guidance on excessive agency identifies excessive functionality, permissions, and autonomy as common roots of harmful system behavior. Its recommendations include minimum tool access, minimum permission, downstream authorization, and human approval for high-impact actions.

The workflow map

Represent the work as a sequence that business owners can review:

1. A schedule, event, or person creates an eligible task.
2. The system checks scope and required inputs.
3. A specialized assistant gathers approved context.
4. Another role may prepare, compare, or check the result.
5. Exceptions route to named people.
6. A qualified reviewer approves consequential use.
7. The result and source references are delivered.
8. Activity, cost, correction, and outcome signals are recorded.

Avoid unnecessary role splitting. Several assistants are useful only when the responsibilities, permissions, or review standards are meaningfully different.

The test set

Test representative work before live use:

- Normal examples.
- Incomplete records.
- Conflicting sources.
- Outdated guidance.
- Sensitive or prohibited requests.
- Misleading instructions inside documents or messages.
- Tool failures and expired access.

- Cases that should trigger review or refusal.

The NIST Generative AI Profile emphasizes governance, content provenance, pre-deployment testing, and incident disclosure. For an operator, that translates to knowing what the system uses, testing the real job, documenting limits, and assigning issue ownership.

Build outputs

The phase is complete when the business has:

- Working role cards.
- Approved knowledge and source ownership.
- Scoped tool identities and permissions.
- A visible task, review, and exception route.
- A representative test set and results.
- Logging, budgets, and pause controls.
- Team instructions and a fallback process.
- Launch criteria accepted by the owner.

07 Phase 3: Operate the system over time

Operation is the main difference between a one-time automation project and Managed AI Operations. The live system needs priorities, support, measurement, and change control.

Manage goals and tasks

Every active role should connect to a current business goal. Tasks should have an owner, status, priority, eligible scope, due condition, and result. Scheduled work needs volume and spending limits. Old or low-value tasks should be paused rather than allowed to accumulate.

Review quality and exceptions

Track accepted outputs, material corrections, unresolved exceptions, review time, and recurring failure patterns. Look at actual examples behind the numbers. A high acceptance rate can be misleading if only easy cases enter the system.

Manage knowledge and tools

Review changed procedures, stale sources, new fields, vendor changes, expired credentials, and permission drift. Retest important cases when a source, model, tool, instruction, or action boundary changes.

Keep an issue and change history

For every material issue, record:

- What happened.
- Which work and people were affected.
- Immediate containment or fallback.

- Root cause category.
- Correction and owner.
- Retest evidence.
- Approved change and date.

The goal is not paperwork for its own sake. It is organizational memory so the same problem does not need to be rediscovered.

Maintain a value ledger

A useful value ledger stays connected to the original business case.

Area	Example measure
Business result	Review-ready units completed
Capacity	Handling time and owner attention returned
Flow	Wait time, queue age, or completion time
Quality	Accepted outputs and correction patterns
Adoption	Eligible work actually using the route
Cost	Total operating cost and cost per accepted unit
Control	Exceptions, approvals, incidents, and access changes
Improvement	Most important correction completed this period

Do not assign revenue or savings without evidence. Returned time becomes value only when the company can redeploy it, avoid cost, improve service, or create useful additional capacity.

Use a practical operating cadence

Cadence	Review
Daily or per run	Failed tasks, urgent exceptions, approval queue, spending or volume limits
Weekly	Completed work, corrections, adoption, open issues, next improvement
Monthly	Business value, quality trend, cost, source changes, tool changes, role fit
Quarterly	Continue, expand, restrict, redesign, or retire each capability

The cadence should match risk and volume. A low-impact weekly research brief does not require the same attention as a system preparing customer or financial actions.

The managed AI operations service is the ongoing responsibility behind this phase: monitor the work, correct issues, update the system, and keep it aligned with the business.

08 A multi-assistant example: client delivery readiness

One useful result may require several bounded roles.

Specialized role	Responsibility	Boundary
Context preparation	Gather current scope, milestones, communications, and open work	Read approved records only
Knowledge guidance	Find relevant procedures, standards, and examples	Return source links and flag conflicts
Exception check	Compare the package with the readiness checklist	Identify gaps, not decide their consequence
Review coordination	Assemble the brief and route questions to owners	No customer sending or commitment changes

The delivery leader owns priority, staffing, scope interpretation, customer commitments, and final action. The assistants add preparation and coordination capacity around that judgment.

This pattern is intentionally broader than a simple follow-up automation. It shows why shared knowledge and managed coordination can become more valuable than another isolated drafting feature.

09 Responsibility map

Role	Primary responsibility
Business sponsor	Owns the desired result and investment decision
Process owner	Defines the work, exceptions, and acceptance standard
Reviewers	Judge outputs and approve consequential actions
Knowledge owners	Maintain authoritative sources and resolve conflicts
Managed operator	Monitors tasks, issues, costs, tests, and improvements
Technical or security adviser	Reviews access, vendors, data flow, and response needs

One person may fill several roles. The responsibilities still need explicit owners.

10 Human control by action level

Level	System activity	Control
Observe	Read approved information	Source and access review
Prepare	Summarize, compare, classify, draft	Qualified output review
Propose	Recommend a next step	Named owner approval
Execute reversible work	Create a task or update a low-impact field	Logging, limits, and review
Consequential action	Send, pay, commit, grant access, or delete	Qualified approval outside the model

The right level depends on consequence, not novelty. The guide to human-in-the-loop decisions helps owners place review where it is actually needed.

11 Common failure patterns

Tool-first design

The project begins with what a product can do instead of what the business needs. Correct it by returning to the result, owner, baseline, and alternatives.

One assistant for everything

The role becomes impossible to test or permission safely. Divide work only where responsibilities and boundaries are clear.

Disconnected knowledge

Each tool uses a different copy of company guidance. Establish shared sources, owners, and review dates.

Review theater

A person clicks approve but lacks time, expertise, or source context to judge the result. Make the output reviewable and give the reviewer evidence.

Invisible operating cost

The business counts subscriptions but ignores review, correction, knowledge maintenance, monitoring, and vendor change. Include the full operating model in the business case.

Launch without ownership

The original builder leaves and no one manages the capability. Assign business, process, knowledge, review, and operating owners before launch.

Expansion without evidence

New roles and tools are added before the first capability proves useful. Use an operate, expand, restrict, or retire decision for every material change.

12 A 90-day implementation sequence

The detailed 90-day implementation roadmap breaks the work into phases. At blueprint level, the sequence is:

1. **Days 1 to 15:** Assess the current work, baseline, options, value, and owner.
2. **Days 16 to 30:** Design the role, knowledge, tools, permissions, reviews, and tests.
3. **Days 31 to 60:** Build the smallest complete route and run it beside the current process.
4. **Days 61 to 75:** Launch a limited live scope with qualified review and a fallback.
5. **Days 76 to 90:** Measure value and risk, correct issues, and choose to operate, expand, restrict, or retire.

The calendar is adjustable. The gates are not. Each transition needs evidence and an accountable decision.

13 Owner's architecture checklist

Before approving a company-specific AI system, confirm:

- The business result and owner are named.
- The current workflow and baseline are understood.
- Existing product and process options were considered.
- Every assistant has a bounded role card.
- Approved knowledge sources and owners are documented.
- Read, draft, change, send, approve, and delete permissions are separated.
- Consequential decisions stay with qualified people.
- Normal, unusual, and hostile cases were tested.
- Goals, tasks, costs, exceptions, and changes are visible.
- A person or partner is accountable after launch.
- The system can pause and fall back safely.
- Expansion requires a new decision, not only technical availability.

Managed AI Operations gives the company one connected way to make these decisions and keep them current. Northern Logic starts with a free 15-minute conversation about one workflow or business goal. If you want to identify the right first scope, book your AI assessment.

14 Sources

Primary and authoritative references used throughout this field guide.

- U.S. Census Bureau, The Microstructure of AI Diffusion
- NIST AI Risk Management Framework
- NIST AI RMF Core
- NIST Generative AI Profile
- ISO/IEC 42001:2023 AI Management Systems
- ISO overview of AI management systems
- OWASP LLM06:2025 Excessive Agency
- CISA and NCSC Guidelines for Secure AI System Development
- Model Context Protocol authorization specification