

WORKBOOK

Agentic AI Use Case Workbook



A STRUCTURED APPROACH TO IDENTIFY, DEFINE, EVALUATE, TEST, AND
PREPARE FOR USE CASE DEPLOYMENT



How to Use This Workbook

At JBF Consulting, we are seeing increased demand for guidance on identifying Agentic AI use cases and understanding what is required to develop and deploy them successfully.

A viable use case must reflect how work occurs, including the situations in which the standard process changes. The agent does not need to complete every situation independently, but its scope must clearly establish what it will handle and when a human must become involved. This clarity is critical to user confidence and adoption.

This nontechnical workbook provides a structured way to:

- Identify and document potential use cases
- Determine which opportunities warrant further analysis
- Define the complete use case, including how variations and exceptions will be managed
- Select and design a proof of concept (PoC)
- Evaluate what broader deployment would require

Three Phased Approach

The workbook is organized into three phases. Each phase builds on the prior one, with the level of detail increasing as a use case advances.

Phase	Overview of Activities	Primary Output
1 Identify and Prioritize Use Case Opportunities	Brainstorm potential uses, record them consistently, and determine which warrant further analysis	Prioritized roadmap and selected use case
2 Define and Evaluate the Use Case	Define the selected use case end to end, evaluate its value and feasibility, and determine the appropriate validation approach	Complete use-case definition and PoC or development plan
3 Prepare for Production Deployment	Determine what is required to operate, support, maintain, and expand the agent	Deployment-readiness assessment

Phase 1: Identify and Prioritize Use Case Opportunities

The purpose of phase one is to create a broad inventory of potential Agentic AI opportunities, which will be used to prioritize and narrow which use cases to proceed forward with.

Identifying Eligible Use Cases

Agentic AI is strongest when technology must work toward an outcome across multiple steps, respond to changing information, and determine the appropriate next action within defined boundaries.

Identifying Fit Indicators

Indicator	Description	Example
Multiple steps	The work involves a sequence of actions rather than one isolated task	Identify a late shipment, gather information, contact the carrier, assess the response, and communicate the outcome
Multiple sources	Information must be gathered from several systems, documents, emails, portals, or parties	Combine order, shipment, appointment, carrier, and customer information
Context-dependent action	The appropriate next step changes based on the situation	Take different action based on shipment priority, customer requirements, or the cause of a delay
Unstructured information	The work requires interpreting emails, documents, notes, images, or conversations	Interpret a carrier email explaining why an appointment was missed

Indicator	Description	Example
Continued follow-up	The work must be monitored until an outcome is reached	Continue following up until an appointment is confirmed
Process variation	Requirements change based on a business condition	Apply different scheduling rules for live unloads and drop trailers
Decisions within boundaries	Some actions may be taken independently while others require approval	Accept an appointment within an approved delivery window
Human escalation	The system must recognize when a person needs to become involved	Escalate a recovery decision that exceeds an approved cost
Measurable completion	The organization can determine whether the expected outcome occurred	Appointment confirmed, shipment recovered, or dispute resolved

An eligible use case does not need to demonstrate every indicator. Together, the indicators help determine whether the work requires the adaptive, multistep capabilities of Agentic AI or may be better addressed through process improvement, system configuration, integration, or traditional automation. The appropriate solution should be confirmed after the use case is fully defined.

Brainstorm Potential Opportunities

Use this exercise to identify and draft potential use cases that, on initial review, align with one or more of the Agentic AI fit indicators. At this stage, the objective is to capture opportunities for further evaluation, not determine whether Agentic AI is the appropriate solution.

Consider areas where:

- Employees repeatedly coordinate across people, systems, or communication channels
- Work waits because information, action, or approval is missing
- Employees spend significant time monitoring and following up
- Decisions change based on customer, facility, supplier, carrier, or shipment context
- Errors, delays, leakage, service failures, or operational risks occur
- Skilled employees spend time on routine coordination
- Existing technology identifies a problem but does not initiate or coordinate the response
- Work frequently moves outside the standard system process

We recommend maintaining the use cases in an Excel workbook using the example provided below. Each use case can be recorded as a separate row and updated as additional information is gathered throughout the evaluation process.

Inventory field	What to Enter	Example
Functional area	The part of the operation where the work occurs	Transportation execution
Opportunity name	A short description of the work being considered	Tender exception recovery

Inventory field	What to Enter	Example
Current problem or work	What happens today and why the opportunity was identified	Rejected tenders remain unresolved for an average of four hours, leaving less time to secure replacement capacity. As recovery time increases, carrier options decrease. This can lead to higher spot rates, premium transportation costs, missed pickups, and late deliveries
Potential business effect	The cost, service, efficiency, or risk outcome that could improve	Reduce transportation costs and protect on-time pickup and delivery performance

Opportunity Prompts

Below are examples of opportunities that could be considered for an Agentic AI use case:

Functional Area	Task
Transportation Planning	Investigating planning exceptions, collecting missing shipment information, or coordinating plan changes
Load Tendering	Monitoring rejected or unanswered tenders, gathering alternatives, and coordinating retendering
Shipment Execution	Monitoring milestones, investigating delays, collecting updates, and coordinating recovery

Functional Area	Task
Appointment Management	Requesting, confirming, changing, and communicating appointments
Carrier Management	Collecting documents, following up on incomplete requirements, and monitoring expirations
Freight Audit & Payment	Investigating invoice discrepancies, gathering support, communicating disputes, and monitoring resolution
Accessorial Management	Collecting documentation, validating responsibility, and routing charges for review
Claims	Gathering evidence, preparing submissions, following up, and communicating status
Customer Service	Investigating shipment questions, assembling information, and coordinating responses
Supplier Management	Following up on readiness, collecting missing information, and communicating changes
Warehouse & Distribution	Coordinating dock issues, resolving shipment holds, and investigating documentation exceptions

Functional Area	Task
Parcel	Investigating delivery exceptions, submitting claims or refund requests, and monitoring the result
International Transportation	Collecting documents and coordinating booking or customs exceptions

Prioritizing Opportunities

We recommend starting with one use case and taking it from initial definition through deployment. This allows your organization to gauge the actual effort required across stakeholders before determining how to scale and when to advance additional opportunities.

To guide the prioritization, it is recommended that the opportunities are reviewed collaboratively across operations and the technical stakeholders responsible for implementation and ongoing maintenance (i.e. IT, system administrators, etc.). Operations should include key stakeholders that can provide insight into the business impact, whereas the technical stakeholders should assess feasibility and the total cost to the business.

Phase 2: Define and Evaluate the Use Case

Phase 2 takes the use case selected from Phase 1 and defines it in explicit detail from beginning to end, to include happy path and known exceptions. Think of each agent as an employee being on-boarded to perform a specific job. While humans often learn unwritten practices and exceptions over time, an agent needs clear direction from the outset. If a requirement or expected response is not defined, the business cannot assume the agent will handle the situation as expected.

2.1 Align Necessary Personnel

Identify the people needed to define the use case from beginning to end. This should include:

- Individuals who understand how the work is performed
- Individuals who own the relevant processes and requirements
- Individuals responsible for implementing and maintaining the agent

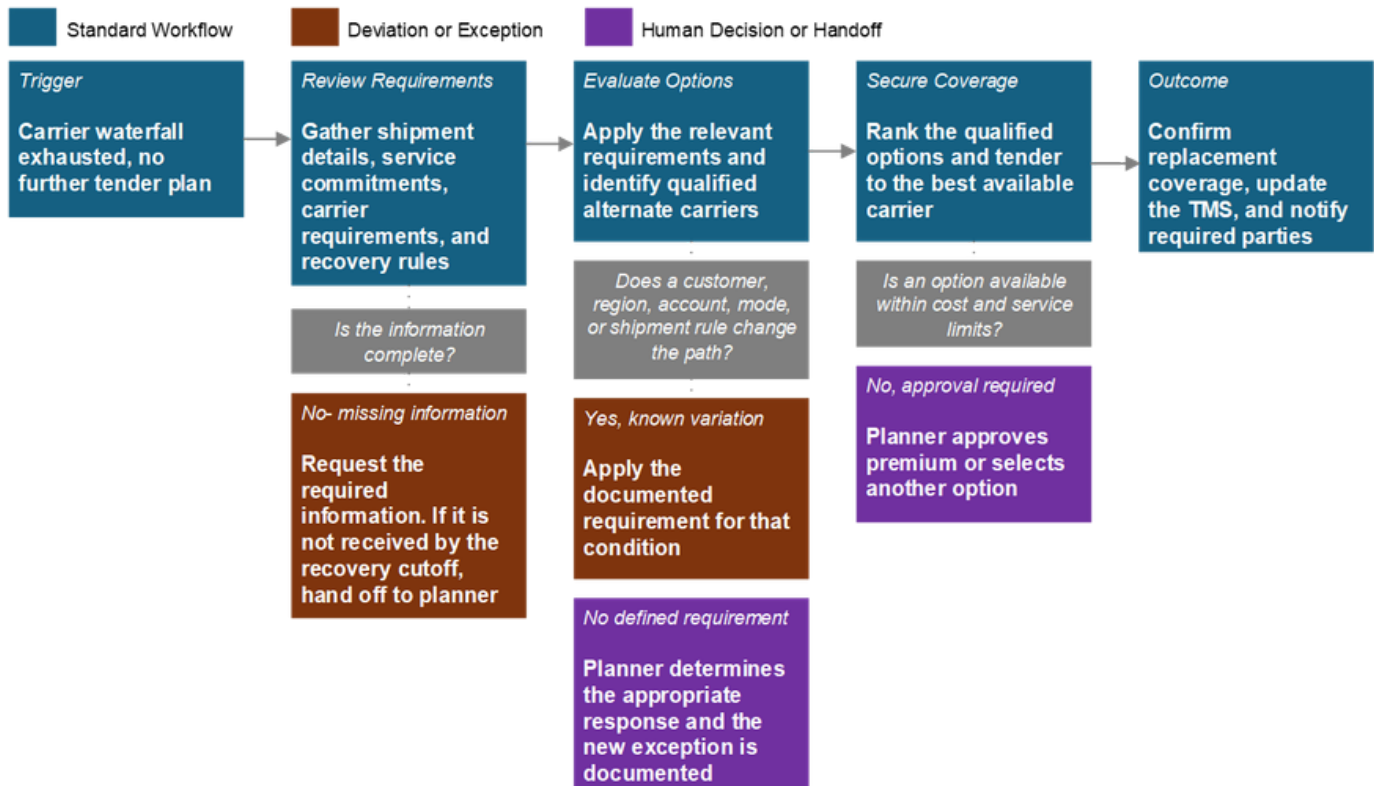
Note, system, data, policy, or control owners should be included as their expertise becomes relevant.

2.2 Map the Use Case End-to-End

Map the intended use case from the event that initiates the work through completion, including the decisions, exceptions, and handoffs that may occur throughout. This map will be used to define the boundaries of the agent's work and determine how it should respond across each known path.

The map should also be maintained as the source of truth for how the agent was designed. It allows the organization to evaluate whether the agent is behaving as intended and identify when operating changes require the agent to be updated.

Example Use Case Mapping



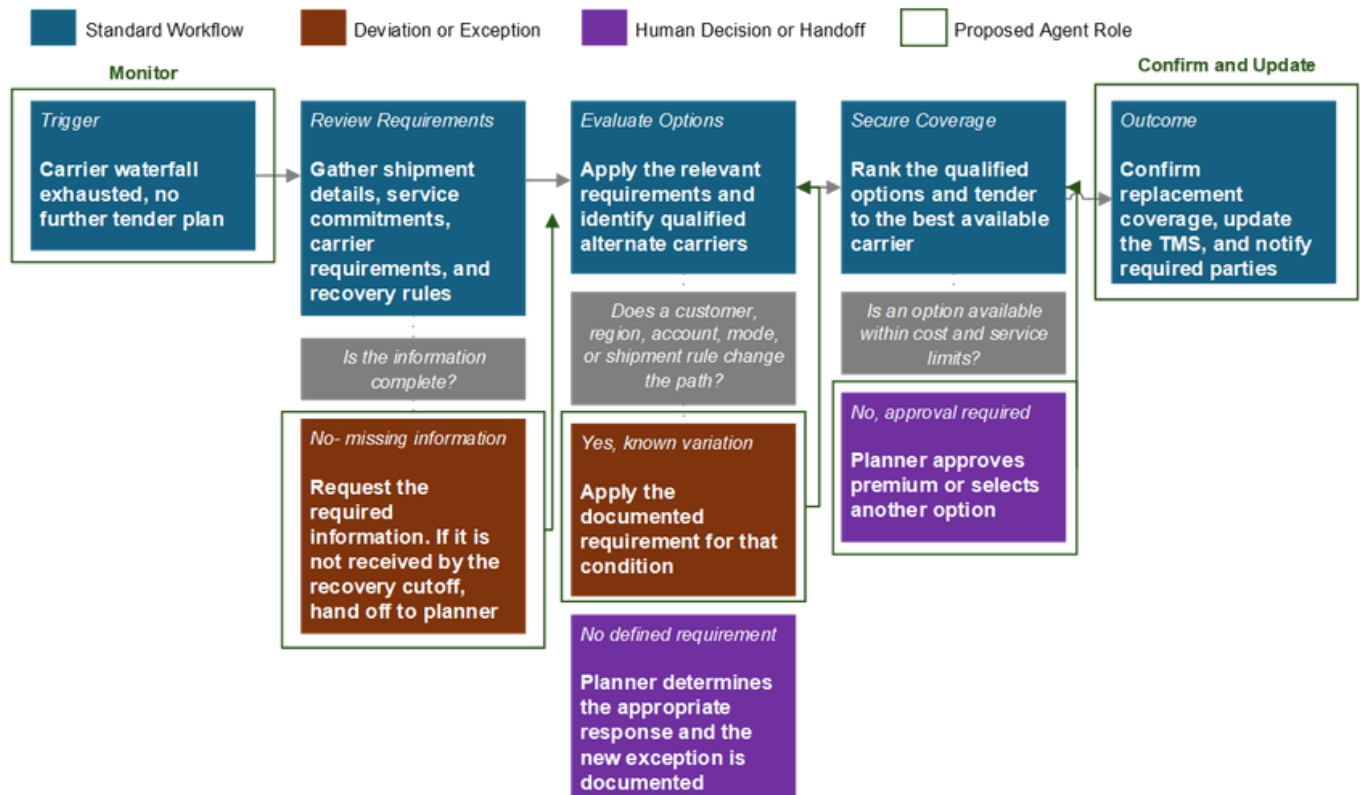
2.3 Determine Where Agentic AI Fits

Use the mapping developed in section 2.2 to determine where an agent could support or perform the work. For each step, decision, deviation, and handoff, determine whether the agent should:

- Complete the activity independently
- Recommend an action for human approval
- Gather information or coordinate a handoff
- Monitor the process and escalate when needed

This overlay defines the proposed role of the agent without assuming that the entire use case should be automated. It also identifies which activities must remain with people or existing technology.

Example Agent Incorporation



2.4 Define the Proof of Concept

A PoC should be treated as a controlled test of the proposed solution that may cover the complete use case or a defined portion of it, depending on the cost, complexity, and areas that require further evidence.

Use the workflow defined in section 2.3 to document which activities, decisions, deviations, and handoffs will be included in the PoC. Anything excluded should remain documented as part of the intended end-to-end solution, along with the additional development or validation required to support it later.

The PoC should clearly establish:

- What portion of the use case will be tested
- What the agent will be expected to do

- Which scenarios and exceptions will be included
- What will not yet be tested

2.5 Define the Validation Approach

Validation determines whether the expected value of that solution justifies the total cost to implement and maintain it. Begin by estimating the value, feasibility, and cost of the intended end-to-end solution. Then identify the assumptions that require evidence before the organization invests further. The PoC should be designed to test those assumptions, including whether the agent can perform as intended and produce enough improvement in cost, service, or operational capacity to support the investment.

The assessment should consider:

- The volume and scenarios the agent could manage
- The expected improvement in cost, service, or operational capacity
- The activities and exceptions that would remain with operations
- The systems, data, integrations, controls, and approvals required
- Initial technology, implementation, testing, and change-management costs
- Ongoing monitoring, maintenance, integration support, and operational ownership

Phase 3: Prepare for Production Deployment

A successful PoC does not automatically translate to the agent being ready for production. Before deployment, incorporate what was learned during the PoC and confirm that the solution, affected teams, and operating environment are prepared. Deployment planning should address:

- **Scope:** Confirm what the agent will manage, where human involvement remains, and what is excluded from the initial deployment
- **Technology and controls:** Complete required integrations, system access, security, audit, monitoring, exception handling, and recovery procedures
- **Ownership:** Assign responsibility for business performance, operational oversight, technical support, and changes to the agent
- **People and processes:** Update procedures and prepare employees for how their work, approvals, and escalation responsibilities will change
- **Rollout approach:** Determine whether to begin with a limited live deployment and establish the results required before expanding

It is critical that the use case mapping is updated as required because these materials should serve as the source of truth for monitoring the agent, evaluating its decisions, and incorporating future operating changes.

Ready to Start the Conversation?

Most teams can work through prioritization, use case definition, and PoC design using this workbook alone. Where the work gets harder is in the areas outside the guide: recognizing which exceptions actually matter, sizing the investment against the real operational return, and building the case for production deployment once the PoC is done.

JBF has worked through use case definition and readiness assessment with logistics organizations across transportation, warehousing, and customer service. If you're mapping a use case and want a second perspective on scope, feasibility, or what deployment will require, reach out.

Book a conversation with our team.

jbf-consulting.com

contact@jbf-consulting.com



About JBF Consulting

JBF Consulting is a leading logistics strategy advisory and technology integration firm that partners with shippers to transform their logistics and supply chain execution operations. We empower clients to achieve operational efficiency and scalable, sustainable value through strategy development, roadmap orchestration, unbiased technology selection, expert implementation, data-driven insights, and ongoing managed services.

For over two decades, our client-centric approach and partnerships with best-of-breed solution providers have ensured that every strategy and solution we deliver drives measurable impact, long-term success, and customer satisfaction.