



Project: **Inventory Manager**

Document: **Risks and Obstacles (Refined)**

1. Overview

This document identifies potential **technical, organizational, and delivery-related risks** associated with the development of the Inventory Management System (IMS).

The goal is to provide **early visibility** into dependencies, constraints, and uncertainties that may affect project timelines, budget, or quality — enabling the client and delivery team to make informed mitigation decisions.

2. Technical Risks

2.1. Integration Complexity

- External systems (ERP, CRM, Accounting, or Warehouse tools) are not fully defined.
- Potential differences in APIs, authentication mechanisms, and data formats.
- High likelihood of asynchronous data synchronization challenges and error-handling overhead.

Impact: Medium to High

Mitigation: Conduct API discovery and develop an *Integration Matrix*; define uniform data exchange contracts and retry/error policies.

2.2. Infrastructure and Deployment Strategy

- Hosting strategy (cloud vs. on-premises) not confirmed.
- Lack of CI/CD strategy, environment isolation plan, and rollback procedures.
- Risks related to infrastructure scalability, logging, and monitoring.

Impact: High

Mitigation: Prepare an Infrastructure Blueprint; confirm deployment environments and DevOps stack (e.g., Docker + Kubernetes or CI/CD via GitLab/Jenkins).

2.3. Non-Functional Requirements Gaps

- Missing quantitative performance, availability, and data retention targets.
- No load or stress testing strategy specified.

Impact: Medium

Mitigation: Define measurable NFRs (SLA/SLO/SLI) and include them in architectural and testing plans.

2.4. Security and Compliance

- No current definition of access control, encryption, or compliance standards (e.g., GDPR, ISO 27001).
- Data storage policies unclear (personal data, audit logs, backups).

Impact: High

Mitigation: Implement early *Security Discovery*; establish authentication/authorization model (RBAC/OAuth2) and data protection principles.

3. Product and Process Risks

3.1. Ambiguous Requirements

- Several backlog items lack acceptance criteria, dependencies, or user flow context.
- MVP scope may shift due to evolving business priorities.

Impact: High

Mitigation: Conduct detailed backlog refinement workshops; define Definition of Ready (DoR) for every epic.

3.2. Underestimated QA Effort

- Limited QA-related backlog coverage (manual and automated).

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- No defined regression testing or UAT procedures.

Impact: Medium

Mitigation: Define QA strategy (test levels, environments, data sets, automation scope); allocate test planning resources.

3.3. UI/UX Dependencies

- No finalized UX prototypes; visual design may affect data structures and workflows.
- Risk of rework when aligning backend APIs with UI components.

Impact: Medium

Mitigation: Introduce iterative design reviews; ensure parallel UI and API prototyping.

4. Organizational and Delivery Risks

4.1. Decision-Making Delays

- Key stakeholders are not always available for prompt clarification or approval.
- Change management process not yet defined.

Impact: Medium

Mitigation: Establish a clear RACI matrix; schedule weekly steering sessions for scope validation.

4.2. Resource Allocation and Skill Gaps

- Project team composition may lack DevOps, Security, or Data Engineering expertise at early stages.
- Dependency on external vendors or subcontractors.

Impact: Medium

Mitigation: Validate resource availability during Discovery; include expert consultation in project plan.

4.3. Knowledge Transfer and Documentation

- Absence of centralized documentation or knowledge-sharing practices.
- Risk of siloed information and onboarding delays for new team members.

Impact: Medium

Mitigation: Implement Confluence or similar repository; enforce documentation updates as part of Definition of Done (DoD).

5. Overall Risk Matrix

Category	Risk	Probability	Impact	Mitigation Owner
Technical	Integration complexity	High	High	Solution Architect
Technical	Infrastructure uncertainty	Medium	High	DevOps Lead
Product	Ambiguous backlog items	High	Medium	Business Analyst
Process	QA underestimation	Medium	Medium	QA Lead
Organizational	Decision-making delays	Medium	High	Project Manager
Organizational	Skill gaps	Medium	Medium	Delivery Manager