AI PROJECT RISK ASSESSMENT MATRIX

How to Use This Matrix:

1. Assess LIKELIHOOD (1-5): How probable is this risk?
2. Assess IMPACT (1-5): How severe are the consequences?
3. Find intersection in matrix below to determine RISK LEVEL
4. Use color coding to prioritize: Red = Critical, Orange = High, Yellow = Medium, Green = Low

RISK LEVEL MATRIX

LIKELIHOOD ↓	IMPACT → 1 Negligible	2 Minor	3 Moderate	4 Major	5 Severe
5 Almost Certain	M	H	H	C	C
4 Likely	M	M	H	H	C
3 Possible	L	M	M	H	H
2 Unlikely	L	L	M	M	H

1 Rare	L	L	L	M	M

LEGEND

CRITI	Immediate action required. May block deployment. Weekly monitoring.
= HIG	Urgent attention needed. Escalate to leadership. Bi-weekly monitoring.
MEDI	Manage with defined controls. Monthly monitoring.
= LOV	Accept with basic monitoring. Quarterly review.

EXAMPLE CALCULATION

Example: Model accuracy falls below threshold

- LIKELIHOOD = 3 (Possible - 30-50% probability based on similar projects)
- IMPACT = 4 (Major - would cause 3-6 month delays, require executive escalation)
- Find intersection: Row 3 (Likelihood 3) × Column 4 (Impact 4) = HIGH (H)
- Action: Urgent attention needed, escalate to leadership, bi-weekly monitoring

DETAILED RATING SCALES FOR AI RISK ASSESSMENT

LIKELIHOOD SCALE (Probability of Risk Occurring)

Rating	Level	Probability	Description	AI Project Examples	When to Use
5	**Almost Certain**	> 75%	Expected to occur in most circumstances. Well-documented pattern.	Model drift over 12+ months without retraining; User adoption issues with major process change	Historical data shows it always happens; Industry benchmarks confirm high frequency
4	**Likely**	50-75%	Will probably occur at some point during project. More likely than not.	Data quality issues in legacy systems; Initial model accuracy below target; Integration challenges	Similar projects experienced this; Multiple risk factors present
3	**Possible**	30-50%	Might occur. Even odds. Could go either way.	Regulatory requirements change during project; Edge cases not well represented in training data	Some indicators present; No strong evidence either way
2	**Unlikely**	10-30%	Could occur but not expected. Low probability.	Complete system failure; Major vendor discontinuing service; Catastrophic data breach	Mitigation controls in place; Rarely happens in similar contexts

1	**Rare**	< 10%	May occur only in exceptional circumstances. Very uncommon.	Natural disaster destroying datacenter; Complete AI model failure; Regulatory ban on AI use	Extreme scenarios; Strong controls prevent occurrence; Never happened before

IMPACT SCALE (Consequences if Risk Occurs)

Rating	Level	Cost/Time	Business Impact	AI Project Examples	Regulatory/Reputation
5	**Severe**	> 30% or > 6 months	Project failure; Cannot deploy; Strategic goals unmet; Competitive disadvantage	AI perpetuates discrimination; Severe privacy breach exposing PII of millions; Complete model failure	Major regulatory fines ($10M+); Significant reputational damage; Legal liability
4	**Major**	15-30% or 3-6 months	Significant delays; Major cost overruns; Executive escalation required; Stakeholder dissatisfaction	Model accuracy 10%+ below threshold; GDPR violations; Failed integration causing data loss	Regulatory sanctions; Negative media coverage; Customer complaints
3	**Moderate**	5-15% or 1-3 months	Noticeable impact; Schedule slippage; Budget adjustments needed; Management attention	Model retraining required; Training program needs rework; Additional testing needed	Minor compliance issues; Some stakeholder concern; Manageable regulatory questions
2	**Minor**	< 5% or < 1 month	Limited impact; Minor inconvenience; Easily absorbed; No lasting consequences	Edge cases need manual processing; Minor UI improvements needed; Documentation updates	No regulatory impact; Minimal stakeholder notice; Internal issue only

1	**Negligible**	Minimal	No meaningful impact; Absorbed in normal operations; No stakeholder notice	Cosmetic issues; Minor logging improvements; Optional enhancements	No compliance implications; No reputational risk; Trivial internal matter

PRACTICAL ASSESSMENT EXAMPLES

See how to apply rating scales to real AI project risks

EXAMPLE 1: CRITICAL RISK

Risk: AI model perpetuates historical bias in vendor treatment, leading to discriminatory outcomes

LIKELIHOOD Assessment:

Rating: 4 - Likely (50-75%)

Rationale: Historical data shows differential treatment patterns. Training data contains 10 years of decisions. Similar AI projects in financial services have faced bias issues. No bias testing completed yet.

IMPACT Assessment:

Rating: 5 - Severe

Rationale: Discrimination violations could result in: regulatory fines ($10M+), class action lawsuits, mandatory system shutdown, severe reputational damage, loss of customer trust. Project would need to pause or cancel.

RISK LEVEL: **Likelihood 4 × Impact 5 = CRITICAL (Red)**

Required Action: Immediate action before deployment. Conduct comprehensive fairness assessment. Implement bias testing. Engage

EXAMPLE 2: HIGH RISK

Risk: Model accuracy falls below 95% threshold making automated processing unreliable

LIKELIHOOD Assessment:

Rating: 3 - Possible (30-50%)

Rationale: Training data is limited (50K documents vs. 500K target). Model complexity may lead to overfitting. Similar projects achieved 92-98% accuracy range. Edge cases not well represented.

IMPACT Assessment:

Rating: 4 - Major

Rationale: Below-threshold accuracy requires: major model rework (3-6 month delay), additional training data collection, extended testing. Would miss go-live date. Executive escalation needed. Stakeholder confidence damaged.

RISK LEVEL: **Likelihood 3 × Impact 4 = HIGH (Orange)**

Required Action: Urgent attention required. Expand training dataset immediately. Implement confidence thresholds for low-certainty

EXAMPLE 3: MEDIUM RISK

Risk: Integration with legacy ERP system encounters compatibility issues

LIKELIHOOD Assessment:

Rating: 3 - Possible (30-50%)

Rationale: ERP system is 8 years old with limited API documentation. Integration testing planned but not started. Previous integrations took 2-3 attempts. Technical team has mixed experience with this ERP.

IMPACT Assessment:

Rating: 3 - Moderate

Rationale: Integration issues would cause: 1-2 month delay for troubleshooting and rework, 10-15% budget increase for additional development, management attention required. But project could still deploy with workarounds.

RISK LEVEL:	**Likelihood 3 × Impact 3 = MEDIUM (Yellow)**
Required Action:	Manage with defined controls. Start integration testing early (not just before deployment). Build monitoring and

EXAMPLE 4: LOW RISK

Risk:	User interface requires minor usability improvements after launch

LIKELIHOOD Assessment:

Rating:	4 - Likely (50-75%)
Rationale:	New interfaces almost always need refinement based on actual use. User testing covers common scenarios but not all. Different users have different preferences. Some feedback is expected.

IMPACT Assessment:

Rating:	2 - Minor
Rationale:	UI improvements are: minor inconvenience to users, quick fixes (1-2 weeks development), minimal cost (<5% budget), no project delay, absorbed in normal operations. Does not affect core functionality.

RISK LEVEL:	**Likelihood 4 × Impact 2 = LOW (Green)**
Required Action:	Accept with basic monitoring. Plan for post-launch enhancement cycle. Collect user feedback systematically.

AI RISK ASSESSMENT QUICK REFERENCE

LIKELIHOOD				IMPACT			
5	Almost Certain	> 75%	Expected to occur	**5**	Severe	> 30%	Project failure; >6mo delay
4	Likely	50-75%	Probably will occur	**4**	Major	15-30%	Significant; 3-6mo delay
3	Possible	30-50%	Might occur	**3**	Moderate	5-15%	Noticeable; 1-3mo delay
2	Unlikely	10-30%	Not expected	**2**	Minor	< 5%	Limited; <1mo delay
1	Rare	< 10%	Exceptional only	**1**	Negligible	Minimal	No meaningful impact

RISK MATRIX (Likelihood × Impact)

L ↓ / Impact →	1	2	3	4	5
5	M	H	H	C	C
4	M	M	H	H	C
3	L	M	M	H	H
2	L	L	M	M	H
1	L	L	L	M	M

LEGEND & ACTIONS

C	CRITICAL - Immediate action. May block deployment. Weekly monitoring.
H	HIGH - Urgent attention. Escalate to leadership. Bi-weekly monitoring.
M	MEDIUM - Manage with controls. Monthly monitoring.
L	LOW - Accept with basic monitoring. Quarterly review.

AI RISK CATEGORIES TO CONSIDER

1. Model Performance (accuracy, drift, edge cases)
2. Data Quality (training data, pipelines, labels)
3. Bias/Fairness (discrimination, representation)
4. Explainability (transparency, audit trails)
5. Security (adversarial, data poisoning)
6. Privacy (PII exposure, consent, GDPR)
7. Regulatory (compliance, documentation)
8. Operational (integration, scalability)
9. Business (ROI, adoption, change)
10. Reputational (public perception, ethics)