

AI-Driven Business Innovation

Strategic Frameworks for AI Investment Decisions

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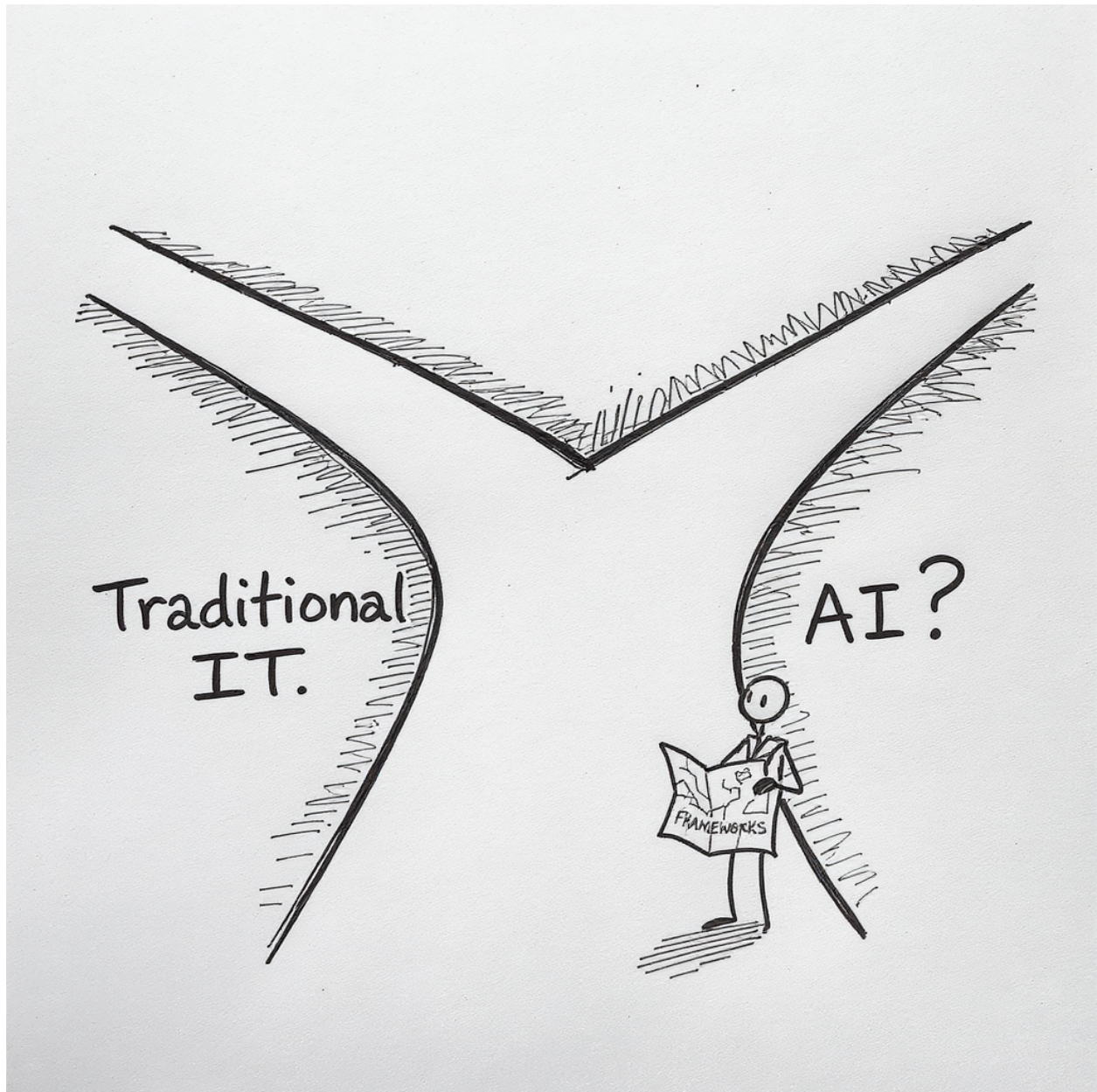
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Companion Site

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The Question We'll Answer



How is evaluating AI investments **DIFFERENT** from traditional IT investments?

By end of day, you'll know:

- 5 ways AI differs from traditional IT
- 5 AI-specific evaluation criteria
- Why highest ROI best AI investment

Today's Schedule

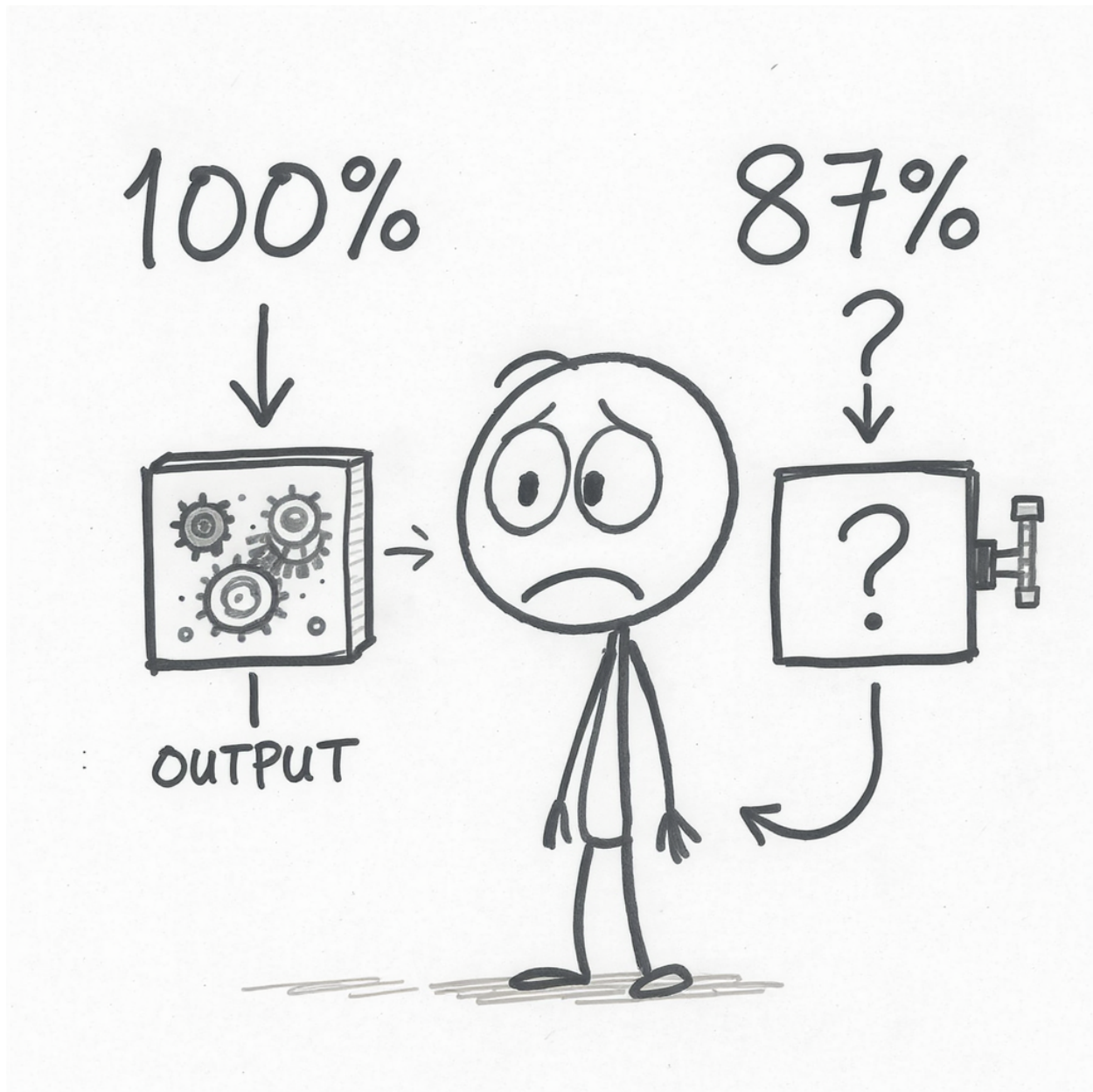
Morning Session:

- What Makes AI Different
- Exercise 1: AI Tech Radar
- Strategic Frameworks
- Exercise 2: AI-Assisted Strategic Analysis

Afternoon Session:

- AI Investment Model
 - Exercise 3: Dragon's Den
 - Exercise 4: Strategic Response Scenarios
 - Debrief & Action Planning
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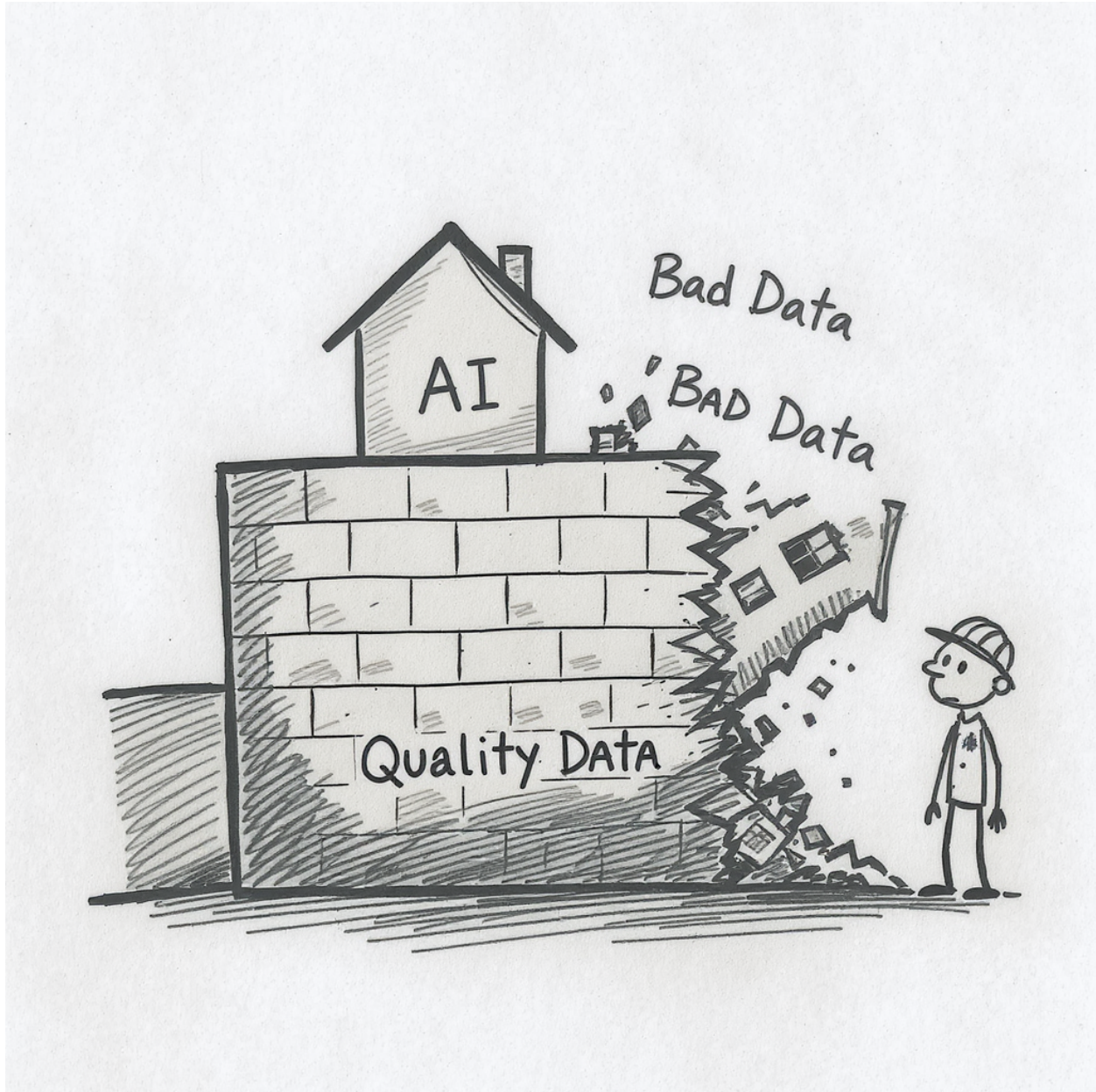
Traditional vs. AI



Traditional IT	AI
Deterministic	Probabilistic
Works without data	Useless without data
Build once, maintain	Continuous learning
Traceable decisions	Black box
Human bias	Amplified bias at scale

Implication: AI needs DIFFERENT evaluation criteria

1. Data Dependency



Traditional IT:

- Write code based on business rules
- Works regardless of data quality

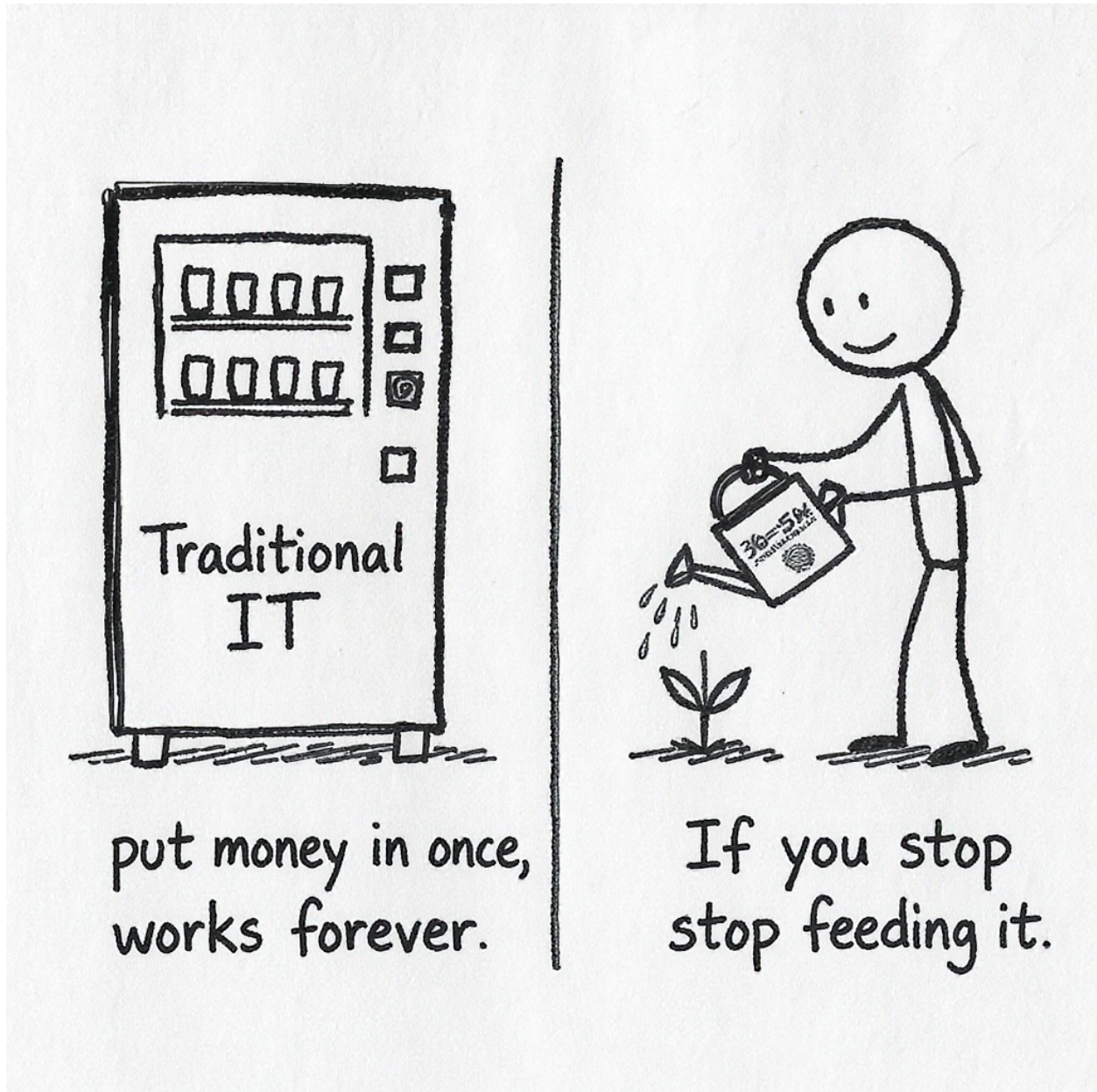
AI:

- Learns patterns from historical data

- $\text{Quality} = \text{Data Quality} \times \text{Algorithm}$

Before funding AI: Assess data readiness (0-10 score, need 7+)

2. Continuous Learning



Traditional IT:

- Build once, maintain 10-15% annually

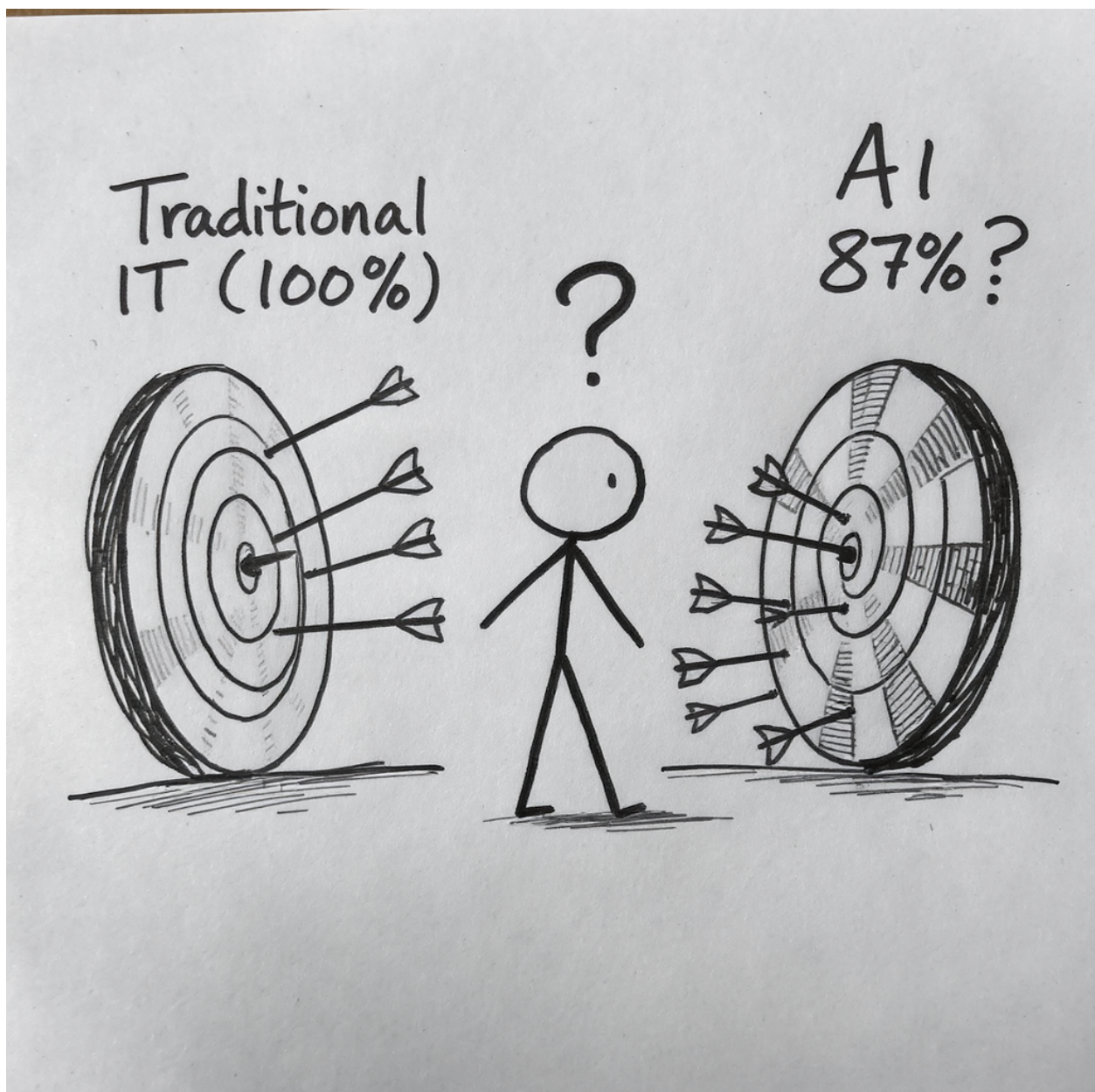
- Predictable costs

AI:

- Continuous retraining as world changes
- Ongoing costs: **30-50% annually**

Calculate 5-year TCO, not just Year 1 cost

3. Probabilistic Nature



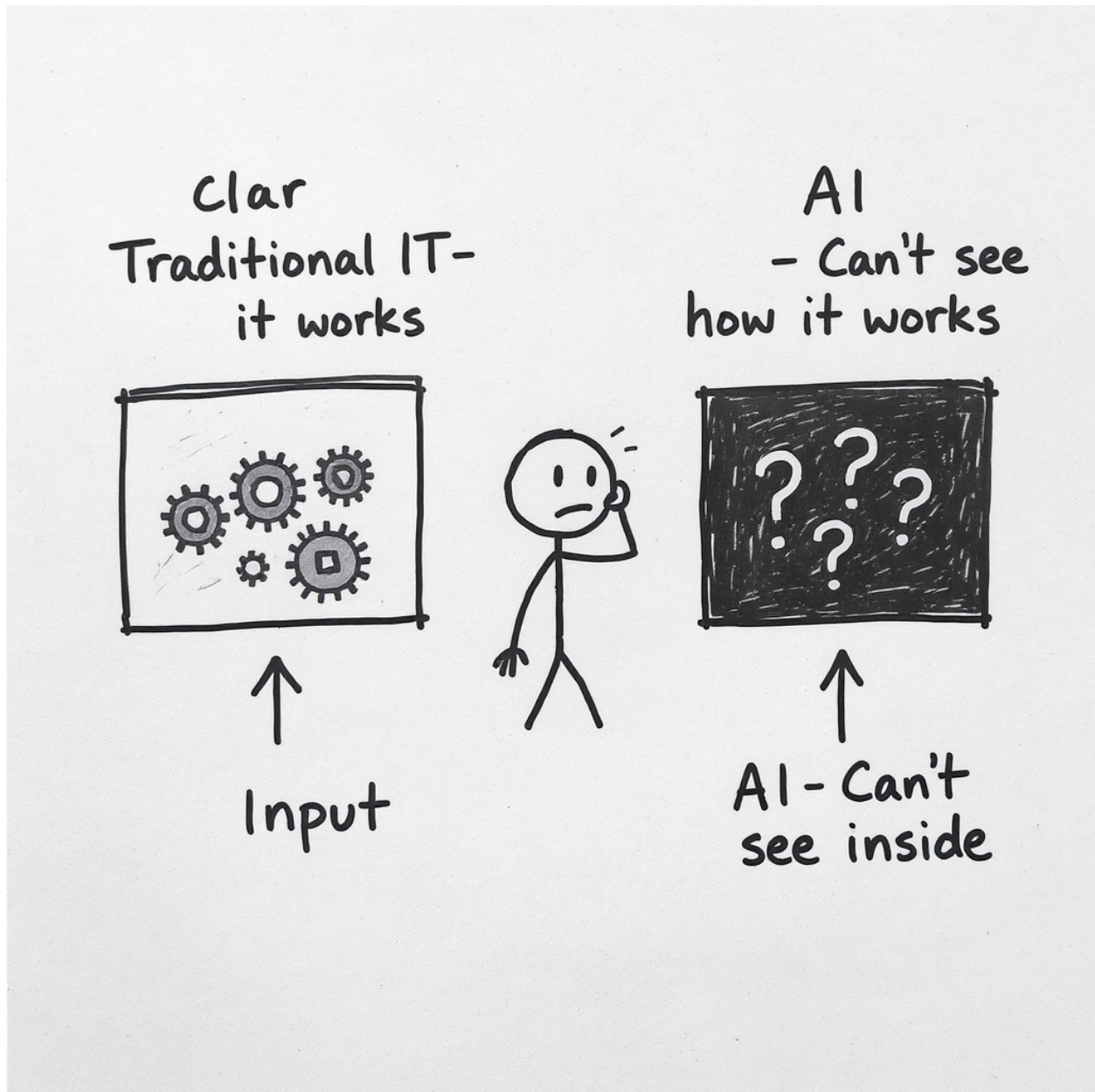
Traditional IT: Same input = same output (100%)

AI: “I’m 87% confident customer will churn”

Match AI accuracy to business risk tolerance:

- **Low stakes** (recommendations): 70-80% OK
 - **Medium stakes** (operations): 85-95% needed
 - **High stakes** (medical, financial): 95-99%+ required
-

4. Black Box Problem



Traditional IT:

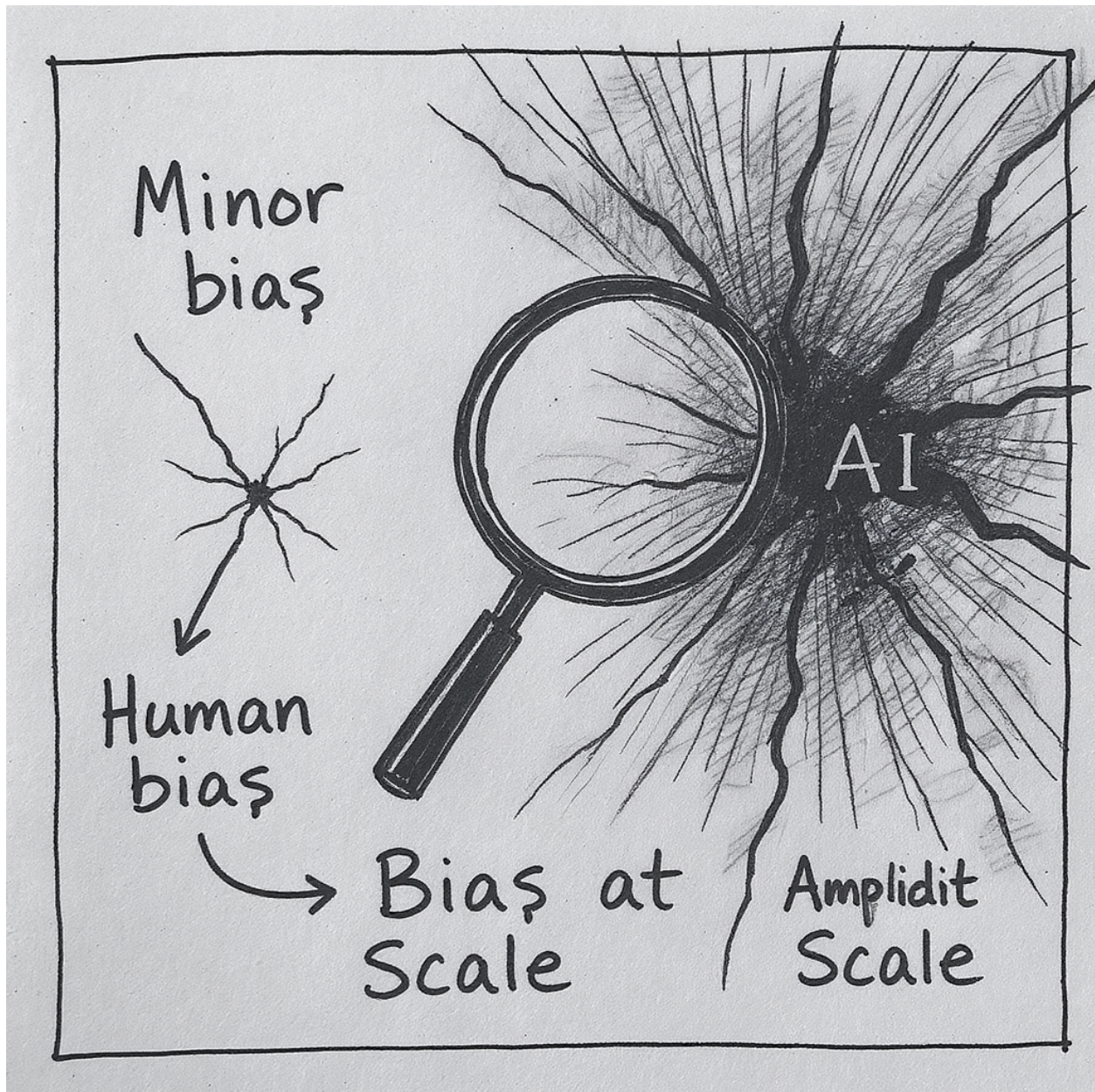
- Trace every decision
- Developers explain “why”

AI (especially deep learning):

- Input → **Black Box** → Output
- “The model learned that pattern”

High explainability = Limited algorithms + Higher cost (+15-20%)

5. Ethical & Bias Risk



Traditional IT:

- Human biases, limited scale

AI:

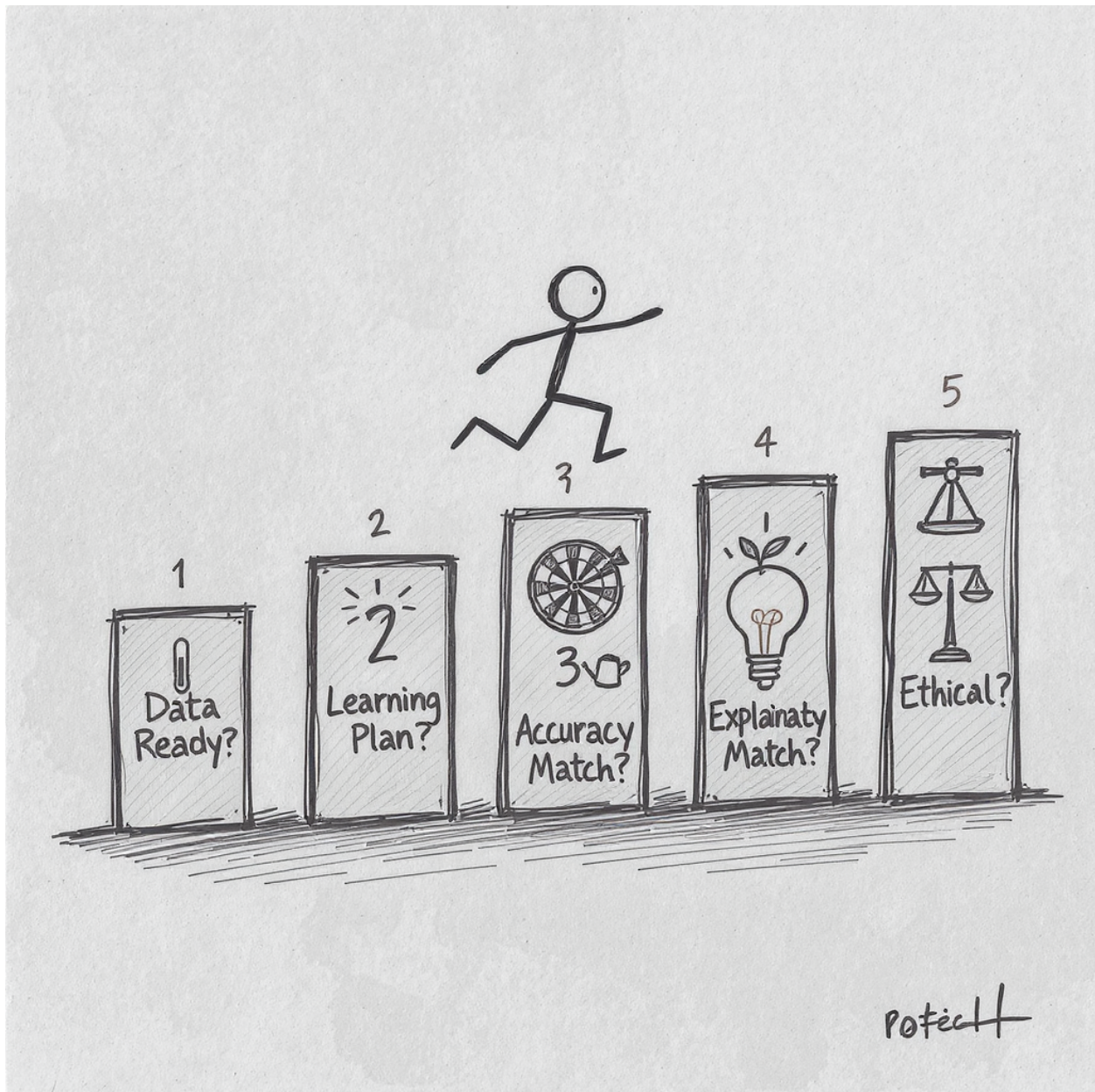
- Learns biases from historical data
- Applies at **massive scale**

- Hidden in model

One biased AI = Millions of biased decisions

Budget 10-30% for bias testing, diverse teams, monitoring

The 5 AI-Specific Criteria

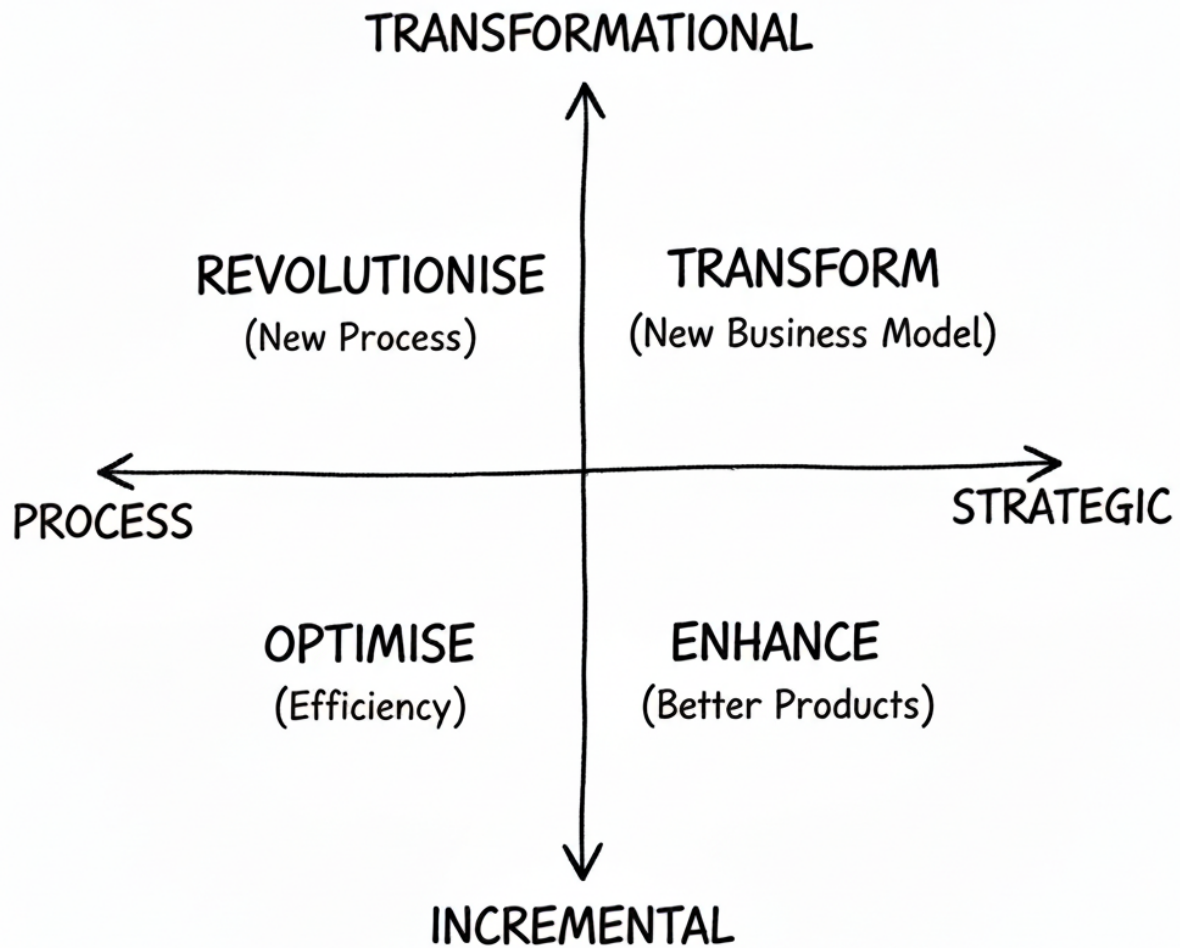


Every AI investment must answer:

1. **Data Readiness** - Score 0-10, need 7?
2. **Continuous Learning** - 30-50% ongoing cost budgeted?
3. **Accuracy vs. Risk** - Does AI capability match requirements?
4. **Explainability** - Can we explain decisions (if required)?
5. **Ethical Risk** - Have we tested for bias?

Must pass BOTH traditional AND AI-specific criteria

Framework 1: AI Transformation Matrix



Four Quadrants of AI Impact:

Classify AI initiatives:

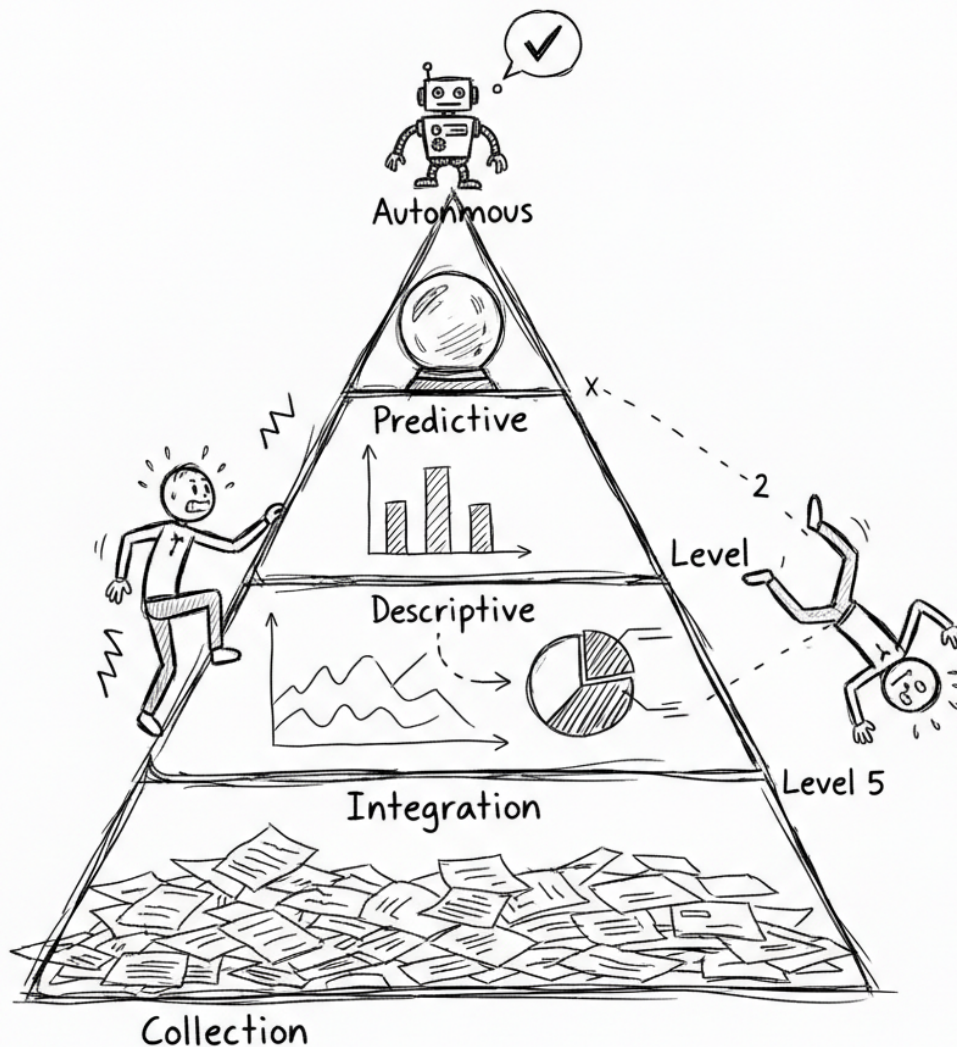
- **OPTIMIZE** (Process + Incremental): Efficiency
- **ENHANCE** (Strategic + Incremental): Better products
- **REVOLUTIONIZE** (Process + Transformational): New processes
- **TRANSFORM** (Strategic + Transformational): New business models

Most organizations: 80% in OPTIMIZE quadrant

Use: Identify portfolio balance and gaps

- The Innovation Adoption Framework provides a roadmap for implementing AI in organisations
 - Phase 1 is Knowledge Building - understanding what's possible before making commitments
 - Phase 2 is Strategic Alignment - connecting AI initiatives to specific business objectives
 - Phase 3 is Capability Development - building or acquiring the needed skills and technologies
 - Phase 4 is Pilot Implementation - testing in controlled environments to demonstrate value
 - Phase 5 is Organisational Transformation - scaling successful approaches across the business
 - The Digital Agriculture Services example illustrates this progression
 - They began by building knowledge about how satellite imagery and ML could predict crop yields
 - They aligned this with strategic business needs in agricultural insurance and investment
 - They developed capabilities by building data science teams and satellite imagery processing
 - Their pilot implementations tested predictions against ground-truth data in specific regions
 - Now they're transforming the agricultural intelligence landscape at organisational scale
 - This framework applies to any significant innovation initiative, not just AI
 - The key insight: skipping phases often leads to implementation failure
 - Many organisations jump straight to pilots without strategic alignment or capability building
 - The KPMG framework provides additional detail on implementing each phase
 - What phase is your organisation currently in? Are you trying to skip essential steps?
-

Framework 2: Data Value Pyramid



5 Levels of Data Maturity:

- Level 5: **AUTONOMOUS** - AI decides and acts
- Level 4: **PREDICTIVE** - Forecast what will happen
- Level 3: **DESCRIPTIVE** - Understand what happened
- Level 2: **INTEGRATION** - Connect data sources
- Level 1: **COLLECTION** - Gather raw data

You cannot skip levels

Match AI to Data Maturity

AI Type	Data Level Needed	Example
Basic automation	Level 1-2	RPA, rules-based
Analytics & reporting	Level 2-3	Dashboards, BI
Predictive models	Level 3-4	Forecasting, recommendations
Autonomous decisions	Level 4-5	Dynamic pricing, auto-ordering

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Assess data maturity **BEFORE** funding AI

Why 85% of AI projects fail



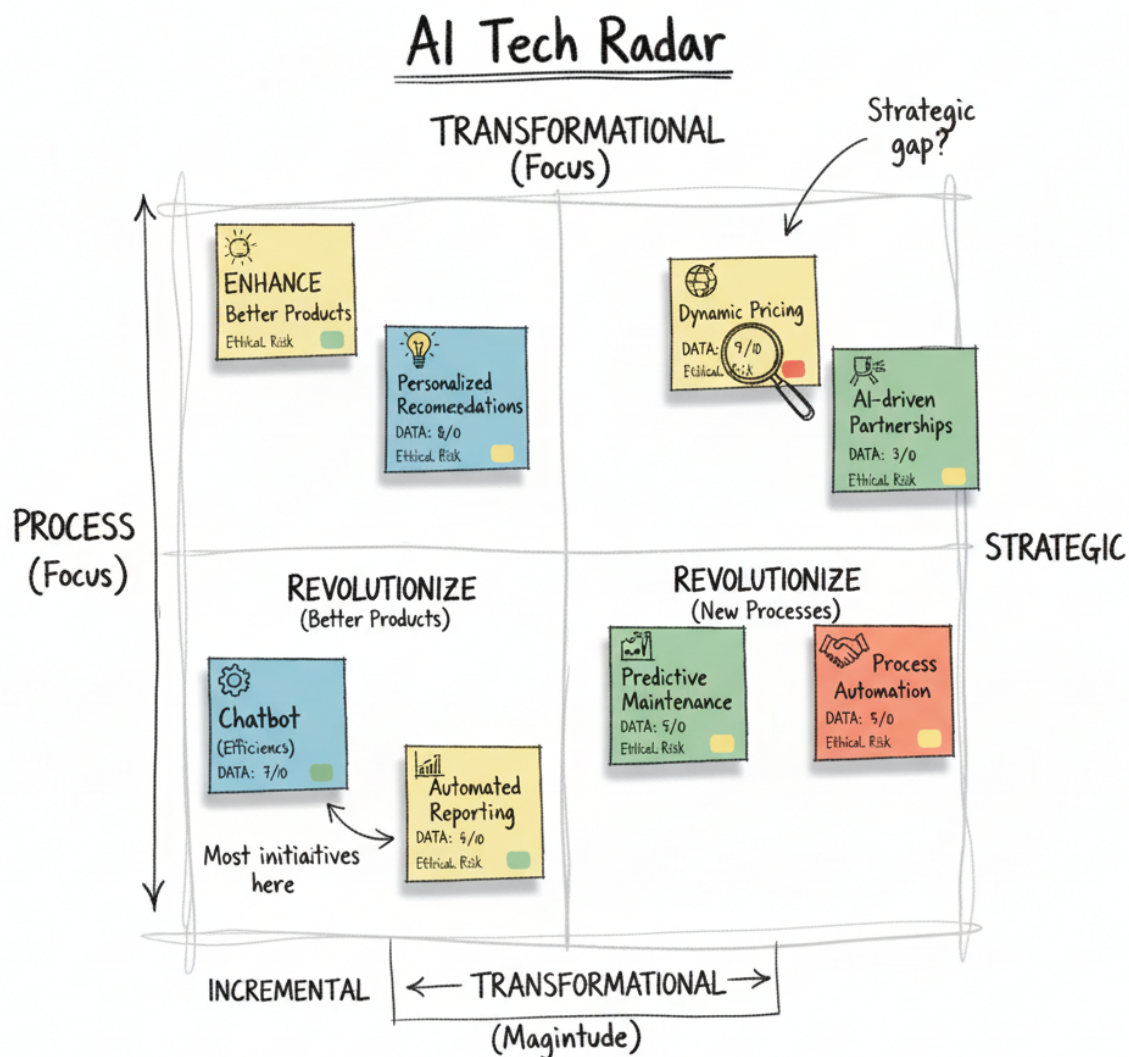
If you're at Level 2, you cannot do Level 5 AI

You will fail.

Most organizations:

- Current state: Level 2-3
- AI ambition: Level 5
- Gap = Why 85% of AI projects fail

Exercise 1: AI Tech Radar



Your Task (in table groups):

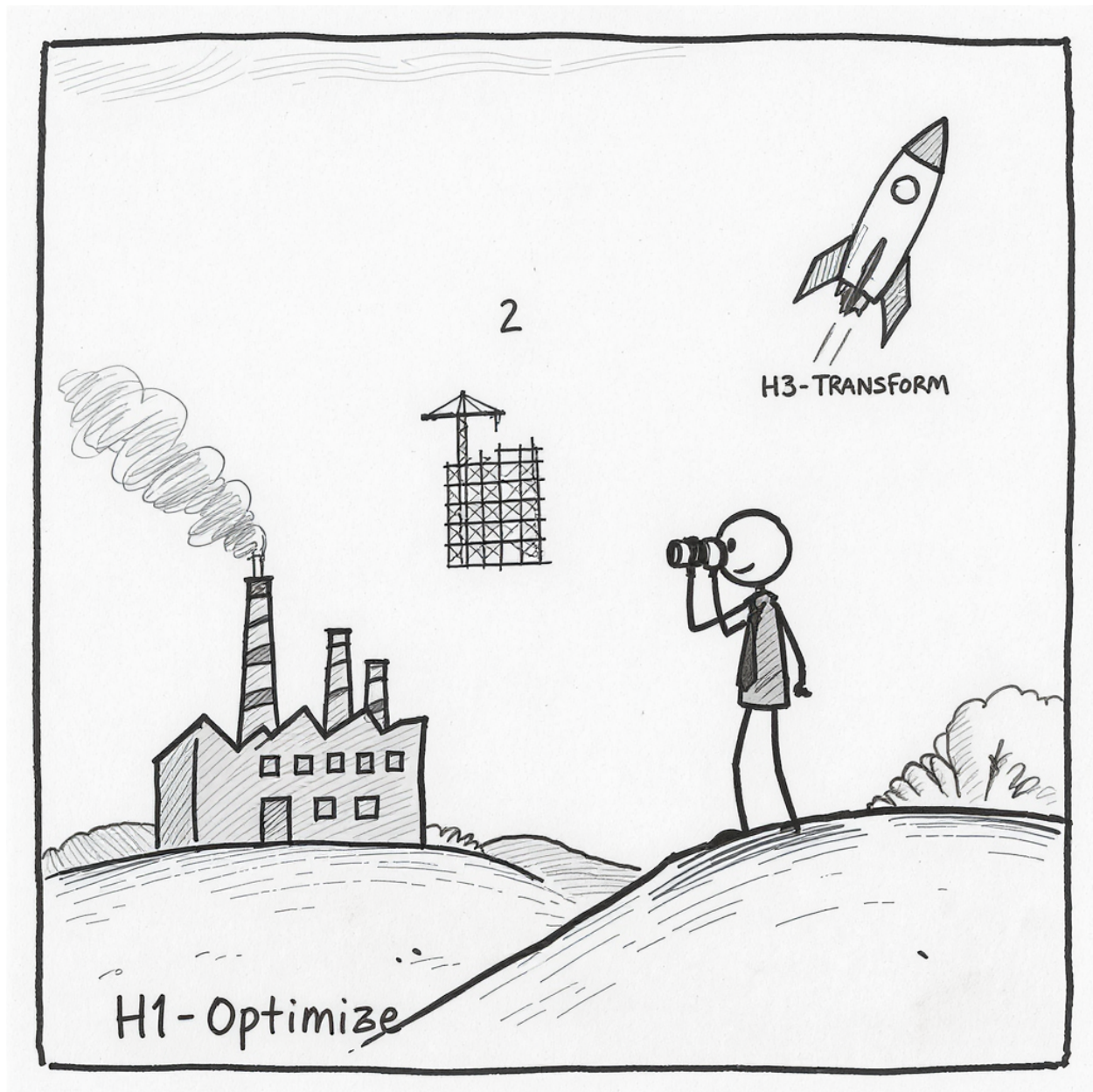
1. Map AI capabilities on Transformation Matrix
2. Assess data readiness for each (0-10 score)
3. Flag ethical risks (HIGH/MED/LOW)

Output: Where are you today? Where are gaps?

Break



Framework 3: Three Horizons Model

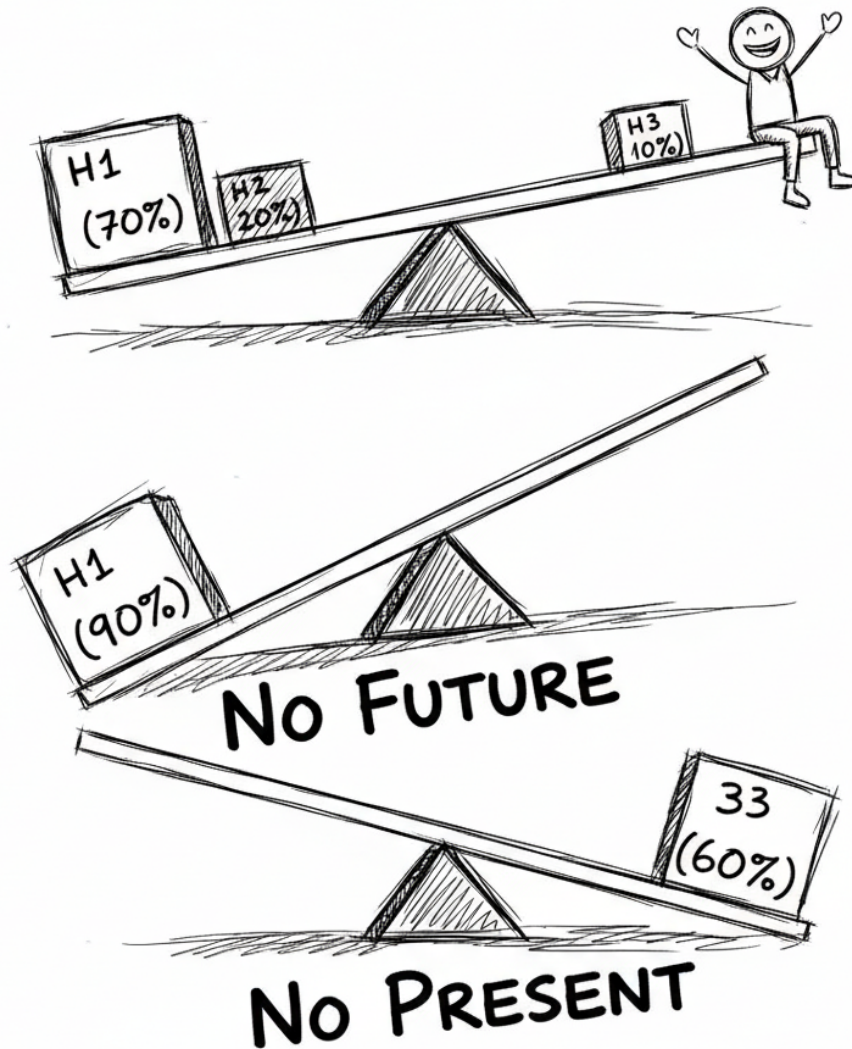


Balance AI portfolio across timeframes:

- **Horizon 1** (0-12 mo): Optimize core - **70%** of budget
- **Horizon 2** (1-3 yrs): Build emerging - **20%** of budget
- **Horizon 3** (3-5+ yrs): Create future - **10%** of budget

All H1 = No future | All H3 = No present

Portfolio Balance



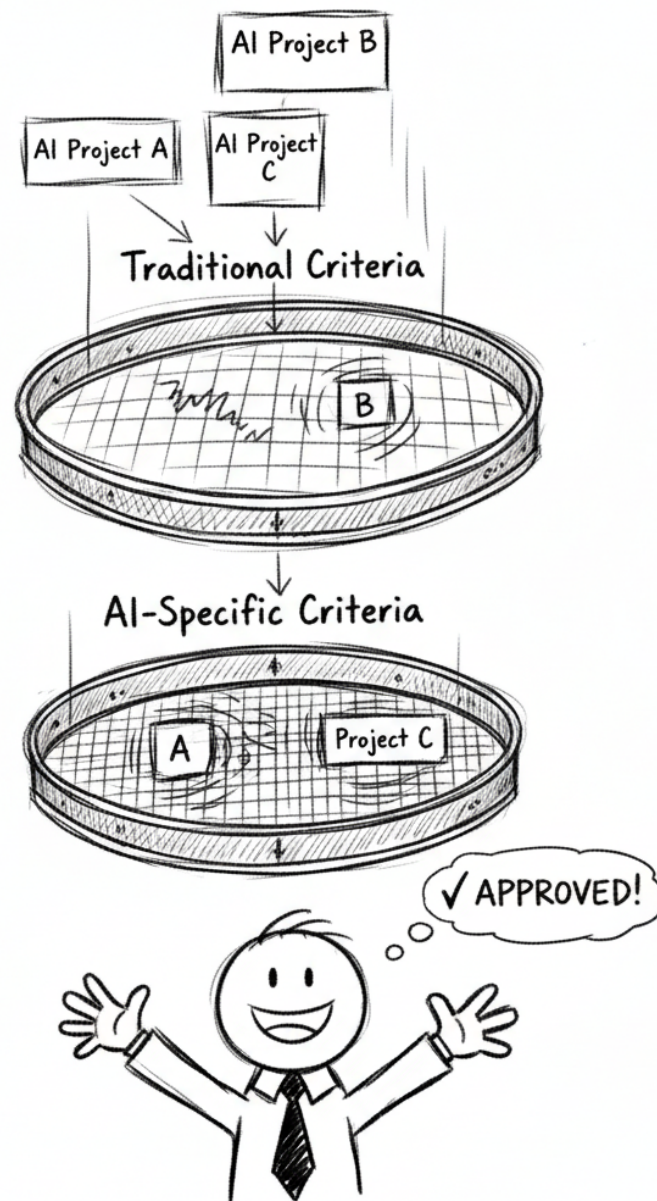
Most organisations get this wrong:

1. **All H1 (80%+ optimize):** Efficient today, irrelevant tomorrow
2. **All H3 (50%+ moonshots):** Exciting vision, no cash flow

Right balance: 70/20/10

Audit your AI portfolio: Are you balanced?

Framework 4: Innovation Adoption Framework

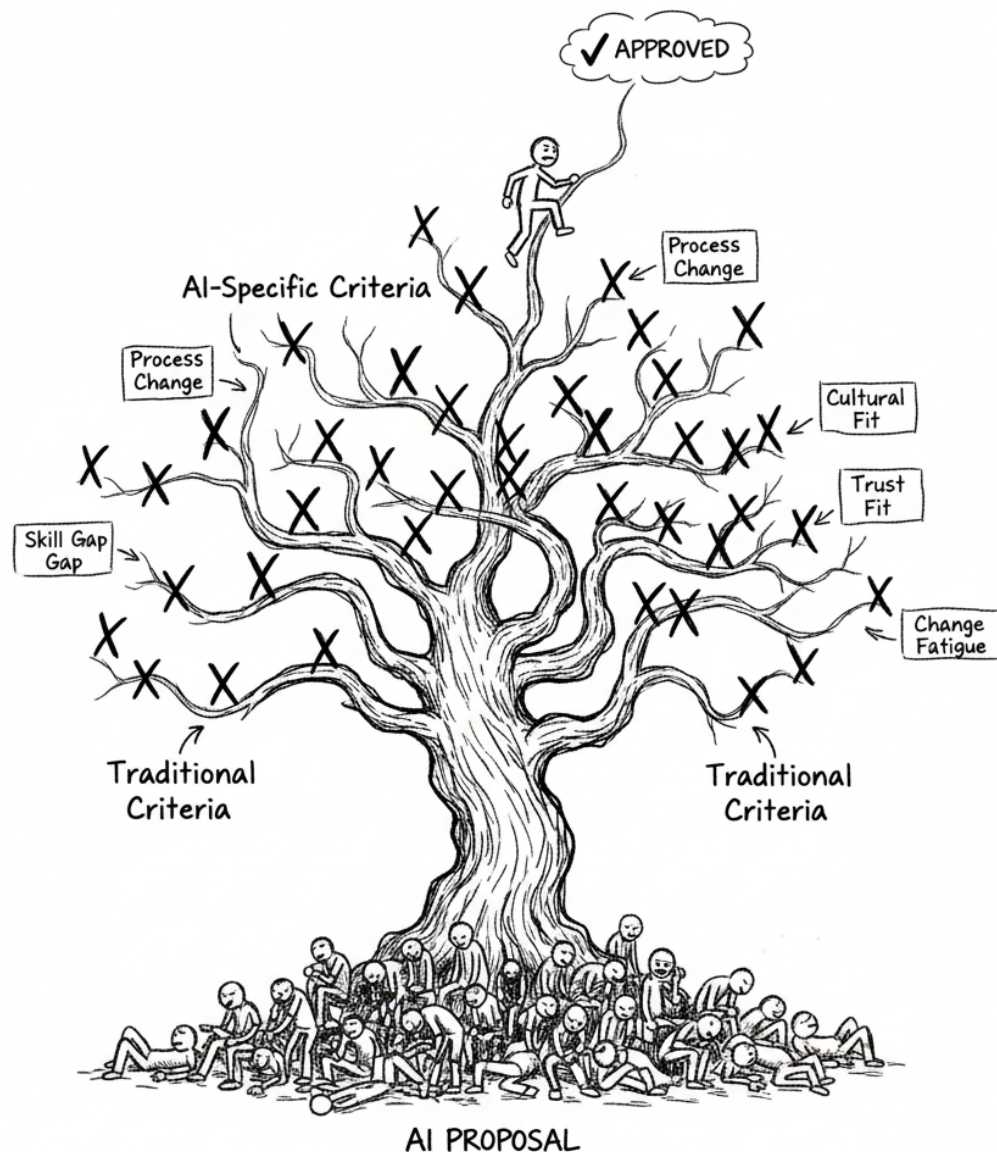


Even great AI initiatives fail if people don't adopt them

- Technical feasibility
- Strong business case
- **But:** 70% of digital transformation fails due to people resistance

Must assess organizational readiness **BEFORE** investing

The 5 Adoption Barriers



Every AI initiative faces resistance:

1. **Skill Gap** - Do people have required capabilities?
2. **Process Change** - How much disruption to workflows?
3. **Cultural Fit** - Does it align with organizational values?
4. **Trust** - Do people believe in the technology?
5. **Change Fatigue** - Are people exhausted from prior changes?

Adoption Readiness Assessment

Adoption Readiness Assessment

 Skill Gap 1 2  [Training needs]

 Process Change  [Change management]

 Cultural Fit  [Messaging strategy]

 Trust  [Messaging strategy]

 Change Fatigue 3-2-5   [Transparency requirements]

↓

Average <3: High Adoption Risk - Reconsider X	Procege 3-3.9: Proceed with Risk Mitigation ⚠	Average ≥4: Ready to Proceed ✓
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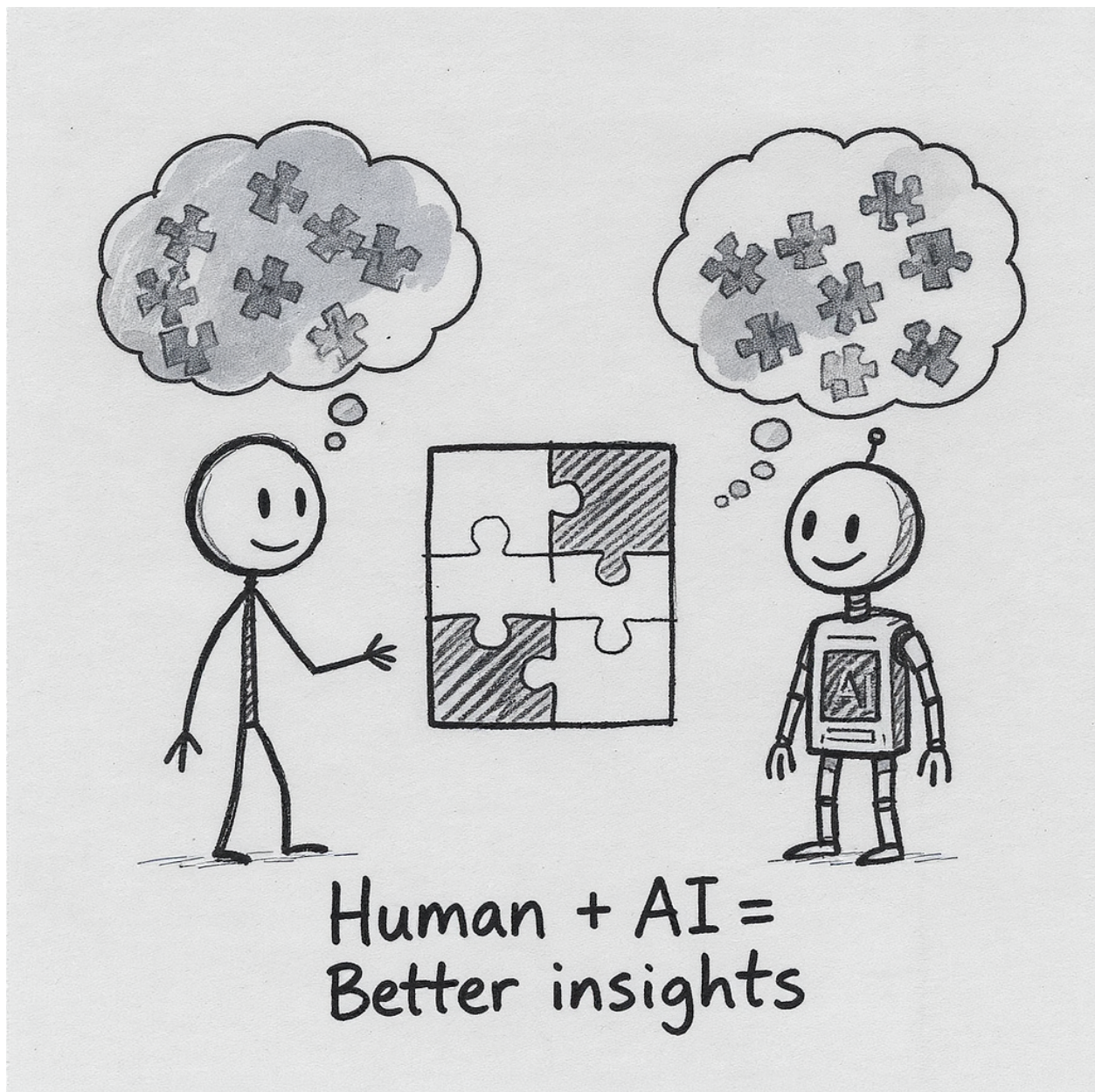
Score each barrier 1-5 (5 = low barrier, 1 = high barrier):

Barrier	Score	Impact
Skill Gap	_____	Training needs
Process Change	_____	Change management
Cultural Fit	_____	Messaging strategy
Trust	_____	Transparency requirements
Change Fatigue	_____	Timing decision

- Average 4: Ready to proceed

- **Average 3-3.9:** Proceed with risk mitigation
 - **Average <3:** High adoption risk, reconsider
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Exercise 2: AI-Assisted Strategic Analysis



Round 1: Risk Deep-Dive AI identifies threats you missed

Round 2: Reverse Prompting AI asks YOU questions to reveal opportunities

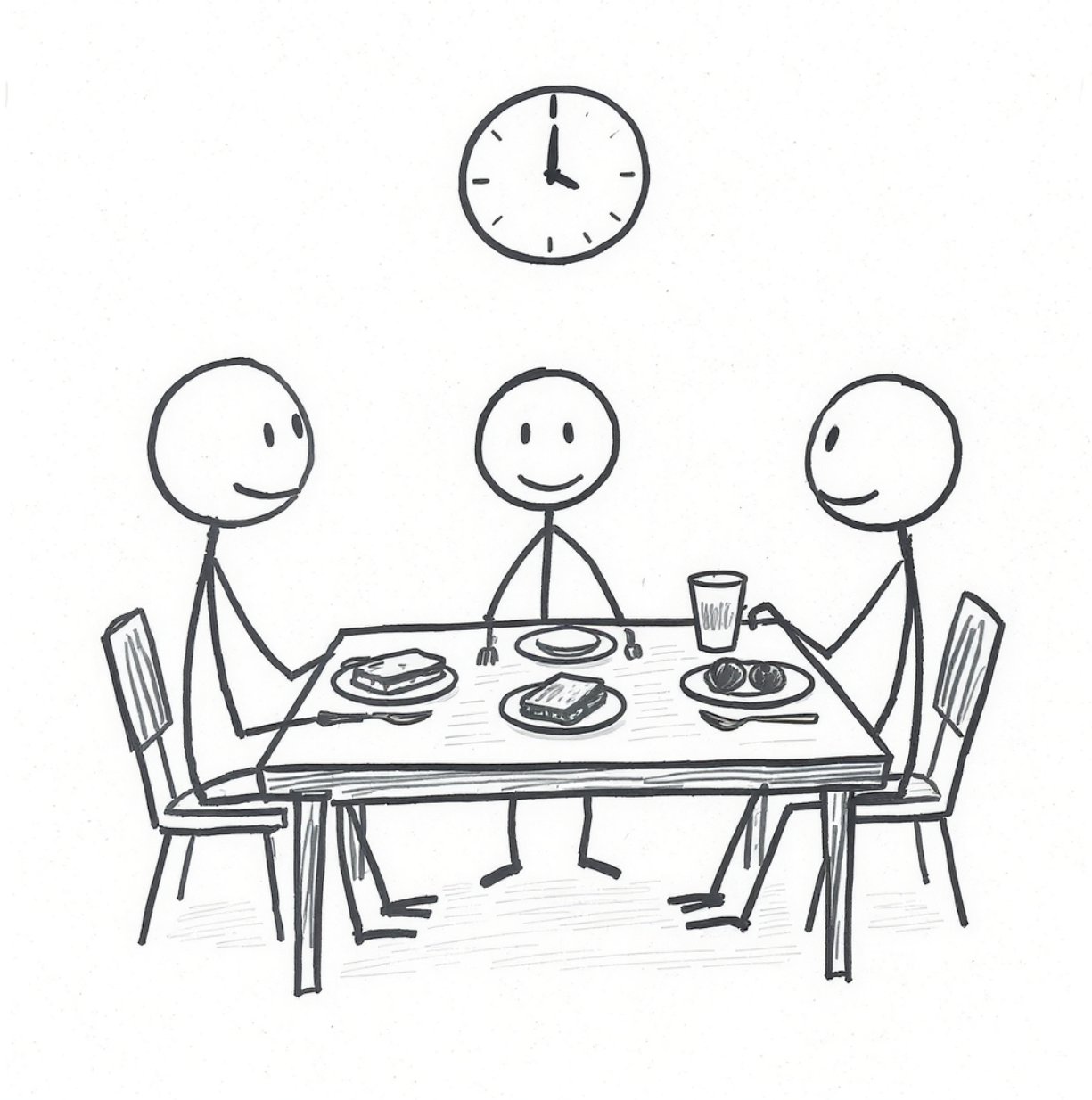
Round 3: AI Debate Two AIs argue different perspectives

You'll use AI tools (ChatGPT/Claude/Gemini) for strategic thinking

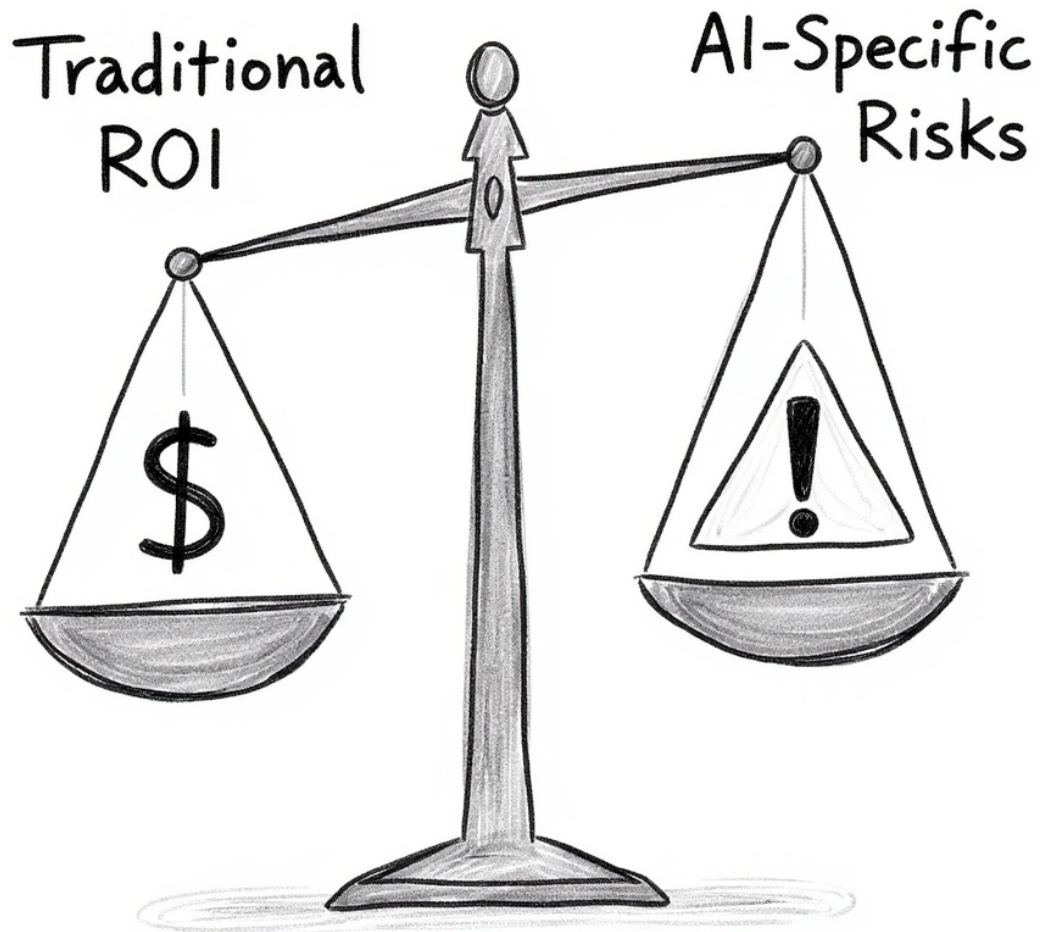
Three phases:

1. **Human Brainstorm** - Your thinking first
 2. **AI Augmentation** - Use AI to go deeper
 3. **Human Synthesis** - Compare & learn
-

Lunch



Framework 5: AI Investment Model



Two-part evaluation:

Part A: Traditional Criteria

- Strategic fit (Three Horizons, Transformation Matrix)
- Financial ROI (4 value categories)
- Implementation feasibility

Part B: AI-Specific Criteria

- Data readiness (0-10 score)
 - Continuous learning plan
 - Accuracy vs. risk tolerance
 - Explainability requirements
 - Ethical risk assessment
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The 4 Value Categories

4 Value Categories



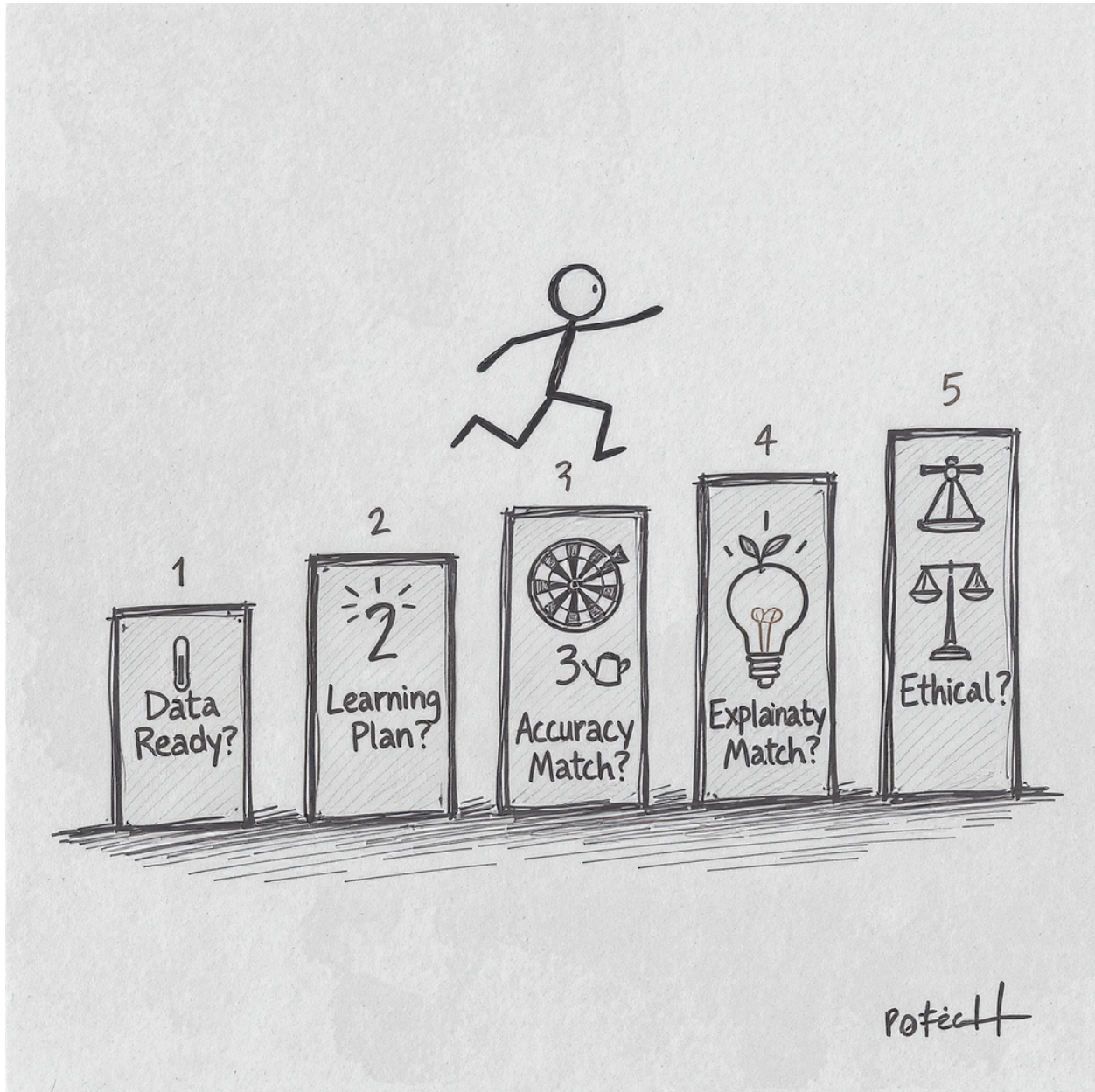
Strong business cases address MULTIPLE categories.

Every AI investment creates value across:

1. **Cost Reduction** - Labor, efficiency, waste
2. **Revenue Growth** - New sales, retention, pricing
3. **Risk Reduction** - Fraud, compliance, quality
4. **Strategic Positioning** - Competitive advantage, capabilities

Strong business cases address MULTIPLE categories

AI-Specific: The 5 Criteria



1. Data Readiness (0-10)

- Data availability, quality, access, bias
- If <7: Stop, fund data infrastructure first

2. Continuous Learning (TCO)

- Static (10-15%), Batch (25-30%), Real-time (35-50%)
- Calculate 5-year TCO, not just Year 1

3. Accuracy vs. Risk Tolerance

- Low stakes: 70-80% OK
- Medium: 85-95% needed
- High: 95-99%+ required

4. Explainability

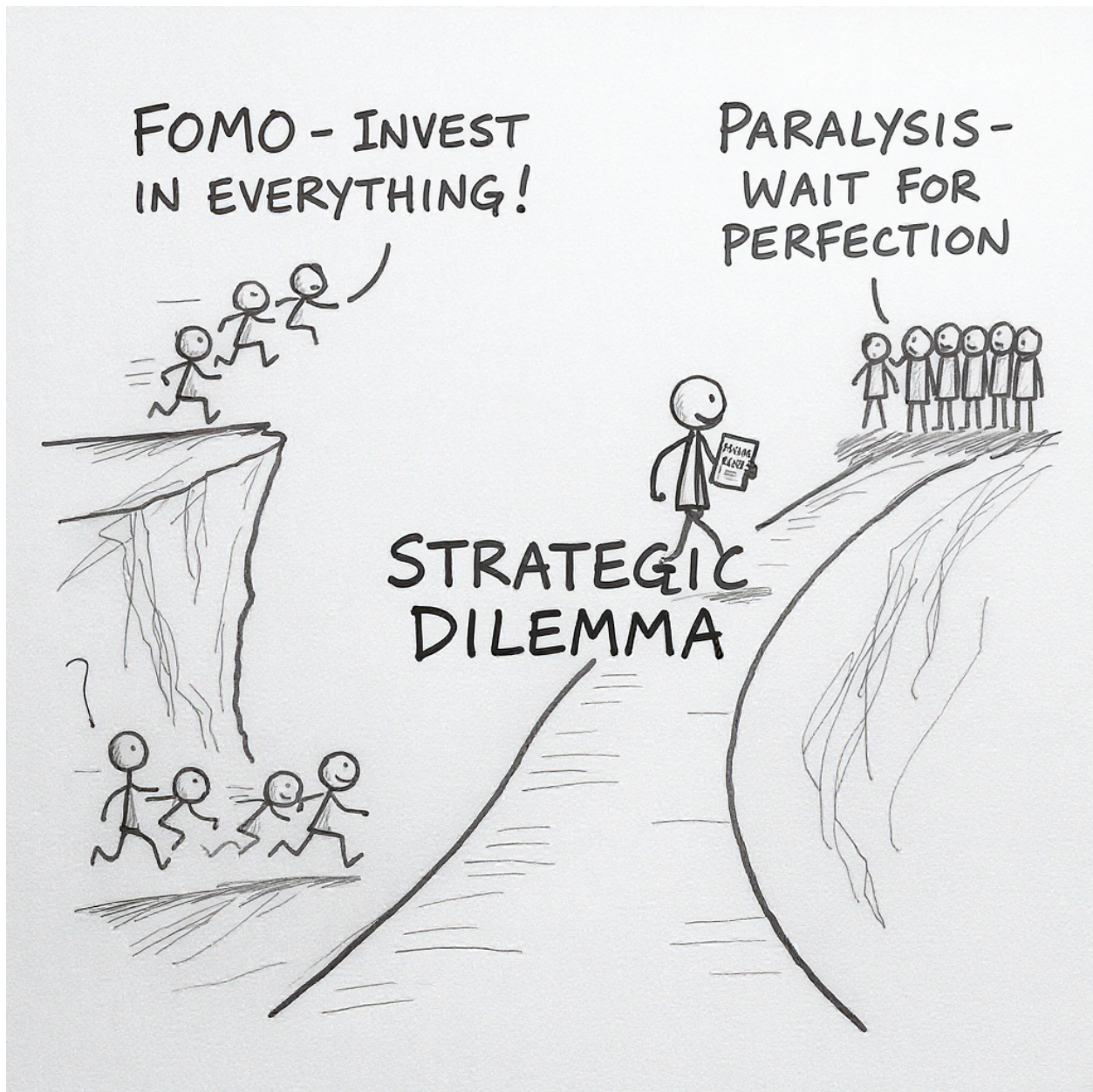
- HIGH (regulated): Interpretable models only (+15-20%)
- MEDIUM (operational): Add explanation tools (+10-15%)
- LOW (consumer): Any algorithm OK

5. Ethical Risk Assessment

- HIGH (life-impacting): Extensive testing (+20-30%)
- MEDIUM (customer-facing): Bias testing (+10-15%)
- LOW (internal): Basic review (+5%)

Budget for bias testing, diverse teams, monitoring

The Strategic Dilemma



If you used **ONLY** traditional ROI:

1. Fraud Detection: 315% ROI ← **Fund this**
2. Inventory: 264% ROI ← **Fund this**
3. Dynamic Pricing: 253% ROI ← **Maybe this?**
4. Chatbot: 92% ROI ← **Don't fund**

But after **AI-specific** analysis:

1. Fraud: Data not ready (need 6 months prep first)
2. Inventory: Exceeds budget cap

3. Dynamic Pricing: HIGH ethical/bias risk
4. Chatbot: Only one that's truly ready

Traditional criteria would fund the **WRONG** projects

Break



Exercise 3: Dragon's Den



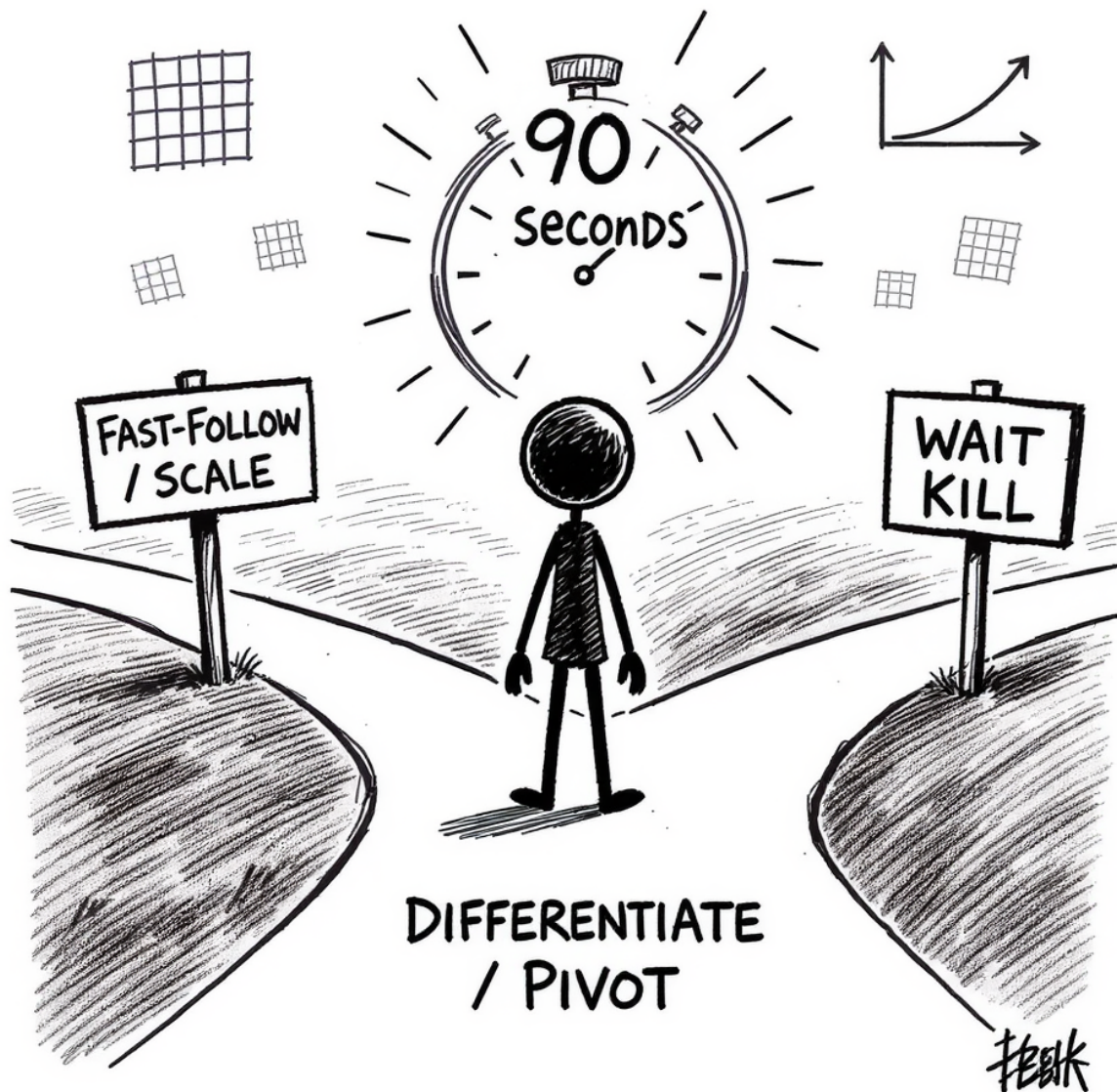
Strategic stress test of the AI Investment Model:

- RetailFlow has \$2M budget, \$2.95M in requests
- 4 competing initiatives, all with strong ROI
- You cannot fund everything
- **The test:** Do AI-specific criteria change your decisions?

Your task:

- Project teams: Build investment case using AI criteria
- Investment committee: Evaluate using complete framework

Exercise 4: Strategic Response Scenarios



Three rapid-fire strategic decisions with anonymous voting (MS Forms).

Apply frameworks to realistic dilemmas: competitive threats, pilot performance, emerging technology timing.

What You Learned Today



AI investments require **DIFFERENT** evaluation:

1. Data readiness gates everything (6/10 = delay the project)
2. Ongoing costs are 3-5x higher (30-50% vs. 10-15%)
3. Ethical risks are existential (one biased AI = massive damage)
4. Explainability isn't optional (regulated industries)
5. Highest ROI best investment (must pass AI criteria too)

The Monday Morning Test



Next AI proposal you see, ask these 5 questions:

1. What's our data readiness score? (0-10, need 7)
2. What's the 5-year TCO? (not just Year 1 build cost)
3. What's the cost of being wrong? (accuracy requirement)
4. Must we explain AI decisions? (regulatory/trust)
5. Could this discriminate? (bias testing plan)

If they can't answer all 5, you're not ready to approve

This is your new governance standard.

The 5 Frameworks: Summary

Framework 1: AI Transformation Matrix - Portfolio balance

Framework 2: Data Value Pyramid - Match AI to data maturity

Framework 3: Three Horizons Model - Balance across timeframes

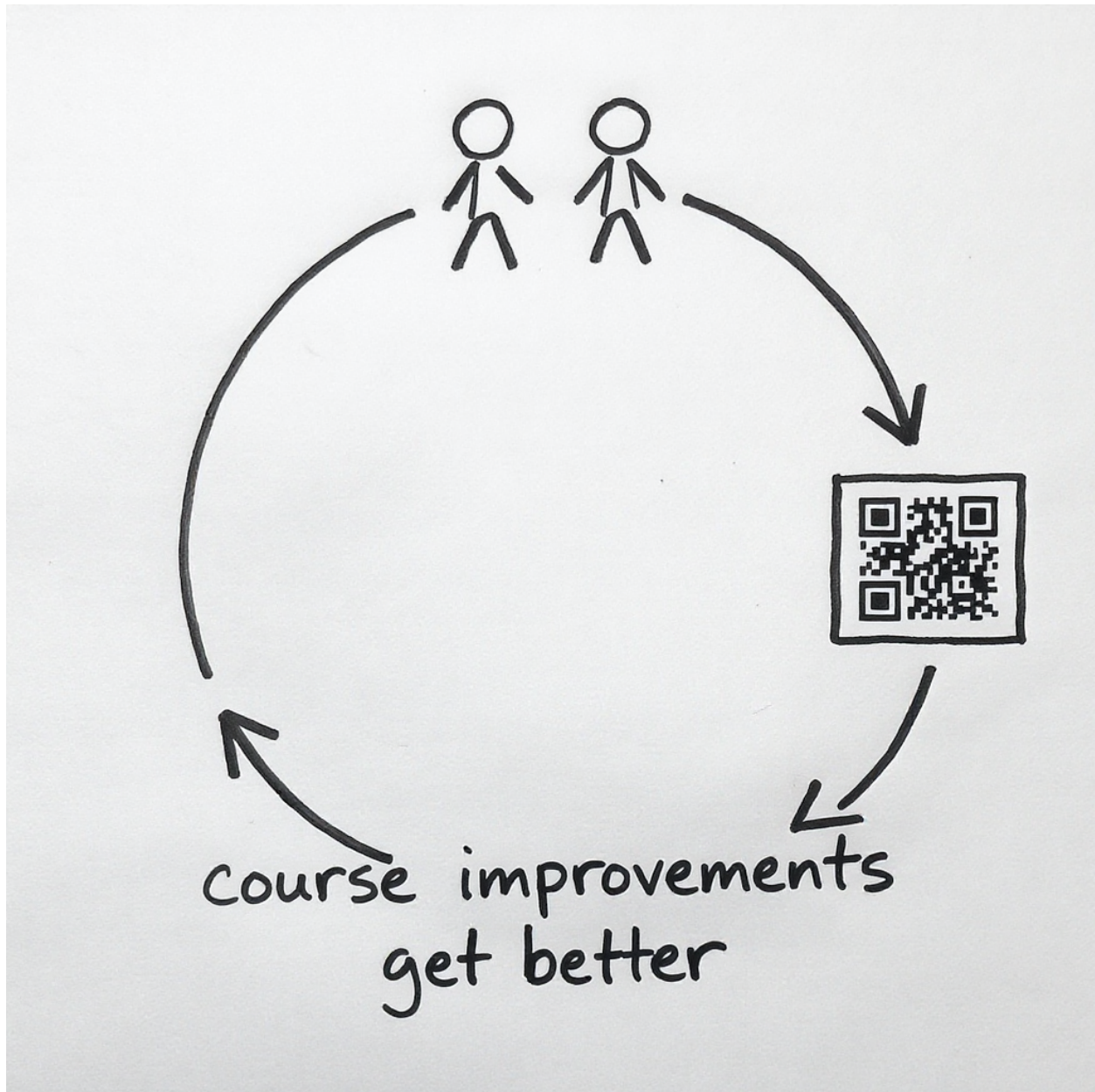
Framework 4: Innovation Adoption - Organizational readiness

Framework 5: AI Investment Model - Traditional + AI-specific criteria

Thank You

Please take the survey





Contact: michael.borck@curtin.edu.au

Materials: <https://exec-ed.github.io/ai-business-innovation/>

You now have:

- 5 strategic frameworks
- AI Investment Checklist
- Understanding of what makes AI different

Use them Monday morning.