



Evaluating the Costs & Benefits of AI

Module 9 — A practical framework for making smart AI adoption decisions

Our Goal: Smart AI Decision-Making

This module equips you to analyze AI adoption decisions through a comprehensive lens—weighing financial, operational, ethical, and social costs against tangible benefits.

Practical evaluation skills

Learn to assess AI adoption in personal, team, and organizational contexts with real-world frameworks.

Cost justification mastery

Determine whether AI delivers sufficient value relative to all costs—both visible and hidden.

Responsible adoption mindset

Balance innovation with ethics, privacy protection, and essential human oversight.



AI as a Strategic Tool

AI isn't a guaranteed solution—it's a strategic investment that requires careful evaluation. Success depends on understanding both quantitative metrics and qualitative impacts.

The dual nature of cost justification

- **Quantitative:** Financial savings, time efficiency, measurable productivity gains
- **Qualitative:** Ethical considerations, social responsibility, team morale, reputation

Effective evaluation demands examining direct and indirect costs alongside tangible and intangible benefits.





Understanding AI Costs



Financial Costs

Software subscriptions, licenses, cloud services, and hardware investments add up quickly.

Example: $\$50/\text{month} \times 12 \text{ months} \times 10 \text{ users} = \$6,000/\text{year}$



Human Resources Costs

Training programs, workflow adaptation, change management, and ongoing monitoring require dedicated time.

Example: $10 \text{ hours} \times \$50/\text{hour} = \$500 \text{ per employee}$



Opportunity Costs

Time and resources diverted from other productive tasks or strategic initiatives.



Social & Ethical Costs

Risks of algorithmic bias, privacy violations, workforce disruption, and potential reputational or compliance costs.

☐ What hidden costs might your team face? Consider technical debt, integration challenges, and resistance to change.



Understanding AI Benefits



Productivity Gains

Dramatically faster execution of repetitive or complex tasks frees teams for high-value work.

Example: 5 hrs/week saved × \$50/hr × 10 employees × 50 weeks = **\$125,000/year**



Decision Support

Data-driven insights enable smarter business decisions with greater confidence and accuracy.



Creativity & Innovation

AI-assisted brainstorming, rapid prototyping, and enhanced content creation unlock new possibilities.



Competitive Advantage

Faster delivery, improved quality, and superior customer experience differentiate your organization.

Remember: **benefits often require effective human-AI collaboration.** AI amplifies human capabilities rather than replacing them.

Cost-Benefit Analysis Framework

01

Select a specific AI tool or scenario

Focus on a concrete use case rather than abstract possibilities.

02

List all costs comprehensively

Include financial, human resources, opportunity, and ethical/social costs.

03

Identify all benefits thoroughly

Capture quantitative gains and qualitative improvements across stakeholders.

04

Quantify wherever possible

Translate impacts into measurable metrics and dollar values when feasible.

05

Calculate Net Benefit

Apply the formula: $\text{Net Benefit} = \text{Total Benefits} - \text{Total Costs}$

06

Determine cost-justifiability

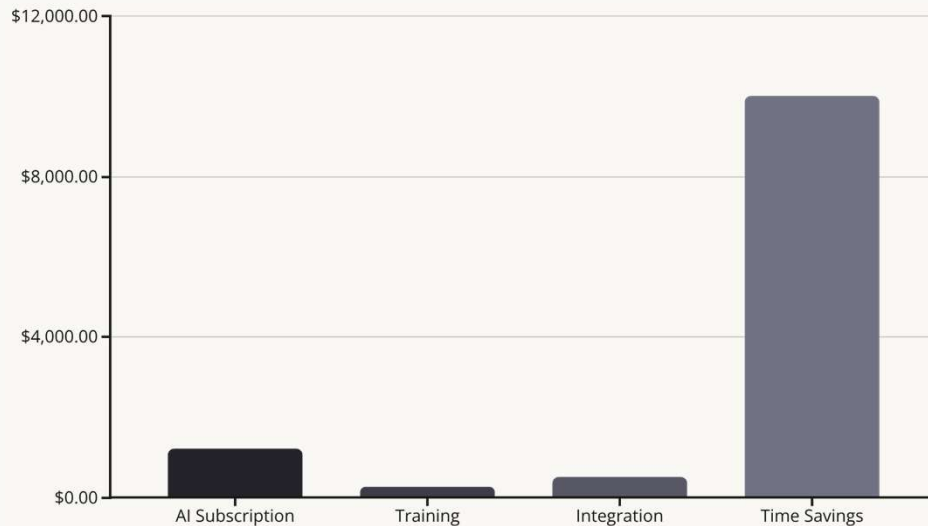
Make an informed decision based on comprehensive analysis and context.

At what point does AI provide sufficient ROI for your specific situation?

Example: Automating Marketing Reports

Scenario Analysis

A marketing team evaluates automating their weekly reporting process. Let's examine the complete cost-benefit picture.



Cost Breakdown

- AI tool subscription: \$1,200
- Employee training: \$250
- Integration time: \$500
- **Total Costs: \$1,950**

Benefit Breakdown

- Time saved: \$10,000 (4 hrs/week × \$50 × 50 weeks)
- Improved accuracy & insights: Qualitative
- **Total Quantitative Benefits: \$10,000**

Net Benefit: \$8,050

Decision: Cost-Justifiable 

Even before considering qualitative benefits, the quantified savings significantly outweigh adoption costs.



Hands-On Analysis Activity

Now it's your turn to apply the cost-benefit framework to a real scenario. This 30-40 minute exercise will sharpen your evaluation skills.



Select Scenario

10 minutes

Choose a personal, professional, or community AI use case that matters to you.



Identify Costs & Benefits

15-20 minutes

Use the analysis matrix to capture quantitative and qualitative factors across all stakeholder groups.



Calculate Net Benefit

5-10 minutes

Determine adoption viability and document your decision rationale.

- ☐ Remember to consider multiple stakeholders (team members, organization, customers) and weigh ethical, privacy, and social considerations—even when financial justification seems clear.



Reflection & Discussion

Take time to reflect on your analysis and engage in meaningful dialogue with peers. Cost-benefit evaluation is both art and science.

Surprising Discoveries

Which costs were most surprising or commonly underestimated in your analysis?

Justification Assessment

Did the benefits justify adoption? What factors tipped the balance one way or another?

Ethical Considerations

How did ethics, privacy concerns, or human oversight requirements influence your final decision?

Sensitivity Analysis

How would changing key assumptions (subscription cost, time saved, hourly rates) alter your cost justification?

Remember: **cost-benefit analysis is iterative and context-sensitive**. As conditions change, revisit your evaluation to ensure continued alignment with organizational goals.

Optional Showcase



Share Your Analysis

Present your AI cost-benefit analysis in 3-5 minutes, focusing on decision rationale, key assumptions, and lessons learned.

Peer Discussion Questions

- Would you adopt AI in this scenario? Why or why not?
- Which assumptions were most critical to your conclusion?
- What would need to change to flip your decision?
- How might this analysis differ in 6 months or a year?

Learning from diverse perspectives strengthens everyone's evaluation capabilities and reveals blind spots in our own analysis.