

YASH BHATT CONSULTING

ROI Model Template: TCO, NPV & IRR

The parameterized framework used in enterprise value-engineering engagements.

Why Most AI ROI Models Fail Procurement

CFOs reject AI business cases for three predictable reasons: benefits stated as percentages without baselines, costs that ignore operations and change management, and no sensitivity analysis. This template addresses all three.

Structure of the Model

- Inputs sheet - every assumption is a named parameter with a source.
- TCO sheet - licensing, implementation, integration, operations, training, and governance overhead across a 3-year horizon.
- Benefits sheet - each benefit tied to a measurable baseline (hours, error rates, cycle time, revenue).
- NPV / IRR sheet - discounted cash flows at your company's hurdle rate.
- Sensitivity sheet - tornado analysis on the five most uncertain parameters.

Step 1 - Total Cost of Ownership

List every cost across three years. Common omissions that later destroy credibility: prompt/workflow maintenance (~15-20% of build cost annually), data pipeline upkeep, model/vendor migration risk, and internal review time for AI outputs.

TCO Line Items

- Software licensing and usage-based API costs (model at P50 and P90 usage)
- Implementation and integration services
- Internal engineering and analyst time (fully loaded rates)
- Training, enablement, and change management
- Governance, security review, and compliance
- Ongoing operations: monitoring, runbooks, incident response

Step 2 - Benefits With Defensible Baselines

A benefit without a baseline is an opinion. For each benefit, record: current metric, measurement method, target metric, ramp period, and confidence level. Convert to currency using loaded labor rates or contribution margin - never revenue multiples.

Benefit Categories

- Labor efficiency: hours reclaimed x loaded hourly rate x adoption rate
- Error reduction: error rate delta x cost per error
- Cycle-time compression: value of faster decisions (deal velocity, close time)
- Revenue enablement: only with attribution methodology agreed in advance

Step 3 - NPV, IRR and Sensitivity

Discount 3-year net cash flows at your hurdle rate (typically 10-15%). Report NPV, IRR, and payback period together. Then run sensitivity: vary adoption rate, usage costs, and ramp time by +/-30%. If NPV stays positive at the pessimistic corner, the case is robust.

Rule of thumb from enterprise engagements: cases that survive a 30% haircut on benefits and a 30% increase on costs close faster and renew better - improving estimate accuracy by ~20% and average deal size by ~10%.

Working Session

This framework is most valuable applied to your numbers. For a working session on your business case:
calendly.com/yash121r/30min