

How to use Expected Value Thinking

What it is

Multiply how likely each outcome is by what it's worth, then add them up, to compare two choices fairly.

When to use it

When you're choosing between two options and both could go a few different ways.

Steps

1. **List outcomes and odds.** Name your two options, then for each, write what could happen, how likely it is, and what it's worth.
2. **Add up the expected value.** Multiply chance by value for each outcome, then add them up. Compare the two totals.

Common mistake

Only picturing the best-case outcome and ignoring how likely it actually is.

Pairs with

Regret Minimization and Opportunity Cost.

Example: office raffle or skip it

Date: Fri, Mar 20

Buy a five-dollar ticket for the office holiday raffle, or skip it and keep the five dollars.

List outcomes: chance times value One per line, e.g. Win 30%, worth \$500.

Option A

- 1 Win office raffle, 10%, \$50
- 2 Lose office raffle, 90%, \$0
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____
- 10 _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____

Option B

- 1 Skip it, keep the \$5 ticket cost, 100%, \$5
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____
- 10 _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____

Expected value

Total: \$5.00

Total: \$5.00

Better bet: Tied, but skipping it carries no risk

Expected Value Table

Date: _____

Option A: _____

Option B: _____

List outcomes: chance times value One per line, e.g. Win 30%, worth \$500.

Option A

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____
- 10 _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____

Option B

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____
- 7 _____
- 8 _____
- 9 _____
- 10 _____
- 11 _____
- 12 _____
- 13 _____
- 14 _____
- 15 _____
- 16 _____

Expected value

Total: _____

Total: _____

Better bet: _____