Risk, opportunity and issues

Four formulas for risk, opportunity and issues, each with a worked example, then the model sheet. They serve IPMA, PMI and APM exams alike; candidates for APM's PMQ exam need their purpose more than the arithmetic.

FORMULAS

Expected monetary value (EMV)

EMV = probability × impact (in money)

An average over many cases, not a forecast of one outcome. Here threats are expected losses and opportunities expected gains, both positive; some tools show threats as negative numbers.

`Example: A 50% chance of €15,000 of overtime: 0.5 × €15,000 = €7,500 expected loss`

Is a response worth it?

worth it if cost < expected loss before – expected loss after

Compare in money first; then check the worst case, who owns the risk, and the plan if it happens.

`Example: Threat: 25% chance of €40,000 extra cost. A €5,000 response cuts the chance to 10%. Expected loss 0.25 × €40,000 = €10,000 before, 0.10 × €40,000 = €4,000 after: €6,000 saved > €5,000 cost, so it is worth it`

Break-even probability

p after < p before – cost ÷ impact

How far the response must cut the chance before it pays for itself.

`Example: Same threat: 0.25 – €5,000 ÷ €40,000 = 0.125, so the response must bring the chance below 12.5%`

Contingency reserve for known risks

Cautious: Σ threat EMVs. Netting: Σ threat EMVs – Σ opportunity EMVs

The cautious rule adds threats only, so an opportunity counts once it is secured; netting also subtracts expected opportunities. Say which rule you use, and why. A separate management reserve, held above the project manager, covers risks nobody has found.

`Example: Three threats with expected losses of €4,500, €12,000 and €7,500: €24,000. Netting one €8,000 opportunity: €16,000`

IN THIS HANDOUT

Sources: IPMA ICB4 (2015); PMI, PMBOK® Guide, 8th ed.; PMI, PMP® Examination Content Outline (2026); APM Body of Knowledge, 8th ed.; APM, PMQ handbook (v6, 2026); ISO 31000:2018, the international risk management standard; IPMA International Certification Regulations (ICR) v4.4 (2025)

Responses to threats and opportunities

Choose how to act on each threat and opportunity, and know each exam's name for the same move.

MOVE	FOR A THREAT	FOR AN OPPORTUNITY	WHAT IT DOES
Remove	Avoid	Exploit	Removes the cause or secures the gain
Change	Reduce (PMI: mitigate)	Enhance	Changes the chance or the size
Pass on	Transfer (ICB4: share)	Share	Moves part to a party better placed
Keep	Accept + contingency plan	Accept (APM: reject; ICB4: ignore)	Acts only if a trigger occurs
Escalate	Escalate	Escalate	Outside your scope or authority

The series' own summary; brackets give another body's word. The ICB4 (IPMA's Individual Competence Baseline) lists further options (4.5.11.4, pp. 143–144).

WHAT IT IS

Every body of knowledge offers the same few **moves**, under different names. You can remove the uncertainty, change its chance or size, pass part of it on, or keep it and prepare a **contingency plan** for its trigger. Outside the project's scope, or your authority, you escalate, and the new owner must accept it.

HOW IT WORKS

01 Rank threats and opportunities on agreed scales.

02 Compare each move's cost with the value saved.

03 Give an owner, a budget, a trigger; check new risks.

04 Cover residual risk in the reserve; state your rule.

MID-LEVEL · WORKED EXAMPLE

Apply it well

The situation: A city team has eight months to move resident parking permits online with an outside supplier. The payment integration may be late: a 40% chance of €30,000 of extra work.

The project manager compares accepting it (0.4 × €30,000 = €12,000 expected loss) with weekly tests: €5,000, cutting the chance to 15% (0.15 × €30,000 = €4,500, + €5,000 = €9,500). Tests win. Contingency plan: staff take payments by hand if late.

In the exam: For each top threat: two options, your choice **and why**, the owner, cost and contingency plan. Use your exam's words (reduce or mitigate; transfer or share).

SENIOR · WORKED EXAMPLE

Design and lead it

The situation: A city is joining 14 online services under one login over 30 months, with a platform supplier and a board that sets the rules. Late delivery of the platform is a major threat.

The project manager uses contract levers: delay damages and milestone payments pass part of the threat to the supplier. The board is asked to offer the new payment function to other public bodies, sharing an opportunity. The manager decides up to €40,000; larger cases go up.

In the exam: Treat responses as **trade-offs for the board**: cost, new risks, who carries what per contract, and how much residual risk the organisation accepts.

WHERE IT SITS

IPMA · ICB4	PMI · *PMBOK® GUIDE* 8 · PMP® EXAM	APM · BOK 8 · PMQ EXAM
4.5.11.4, pp. 143–144: options match the ISO 31000 risk standard (sharing); escalation: 4.5.11.1	Guide: Risk domain §2.7; responses incl. escalate, pp. 202–204. Exam outline: Business Environment, task 5	BoK (APM's Body of Knowledge) §5.10 Risk and issue management: proactive and reactive (contingent) responses. PMQ (APM's Project Management Qualification) objective 23c

Sources: IPMA ICB4 (2015); ISO 31000:2018, the international risk management standard; PMI, PMBOK® Guide, 8th ed.; PMI, PMP® Examination Content Outline (2026); APM Body of Knowledge, 8th ed.; APM, PMQ handbook (v6, 2026)