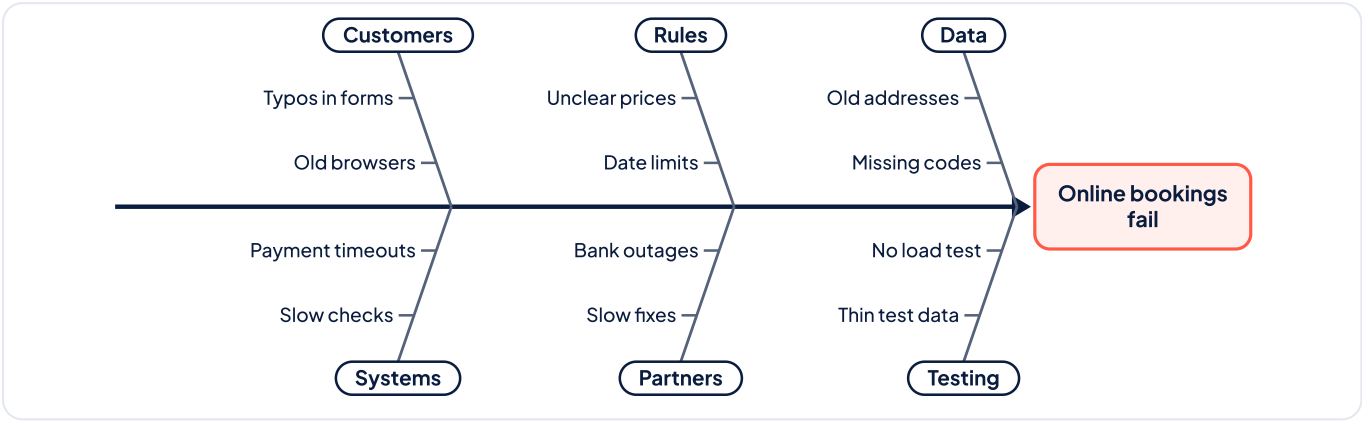
Cause-and-effect (fishbone) diagram

Sort the possible causes of one problem into groups, so the team looks across the whole system first.



Our own example: possible causes of failed online bookings, grouped by the team. Illustrative.

WHAT IT IS

Write the **effect** in a box on the right, with a spine to it; each rib is a group of possible causes for this problem. **Kaoru Ishikawa** made the diagram popular. The **five whys** (Taiichi Ohno, Toyota) go deep down one rib, until the answer can be fixed and prevented. It shows what could cause the effect, not how often.

HOW IT WORKS

01 State the effect with a number: 200 failed bookings.

02 Pick 4–6 groups that fit; add causes with the team.

03 Ask why down the likeliest rib until you can fix it.

04 Check with data; act to correct and to prevent.

MID-LEVEL · WORKED EXAMPLE

Apply it well

The situation: A city team has moved resident parking permits online. In month one, 120 residents get their renewal reminder after their permit has expired.

A one-hour fishbone with the service desk and the supplier, then the five whys: reminders go out in one monthly batch and nobody owns the rules. Fix: send each 30 days ahead; name an owner.

In the exam: The effect with a number, the groups, the five whys down one rib; then the root cause, both actions and the evidence.

SENIOR · WORKED EXAMPLE

Design and lead it

The situation: A city is joining 14 online services under one login over 30 months, with two main suppliers. Defects that cross systems keep recurring.

One fishbone per recurring defect, with the same groups for every service and supplier, and evidence before blame. Causes in contracts or governance go to the steering board.

In the exam: Show shared groups across the parties, evidence before blame, and who decided the actions.

WHERE IT SITS

IPMA · ICB4	PMI · *PMBOK® GUIDE* 8 · PMP® EXAM	APM · BOK 8 · PMQ EXAM
4.5.6.3: detect defects, analyse their causes, explain a root-cause analysis (p. 121)	Guide: fishbone and five whys, p. 150; root cause analysis, p. 196. Outline: Process task 7	BoK (APM's Body of Knowledge) §5.3.3: defects documented; ch. 6: diagnostic analytics. PMQ (APM's Project Management Qualification) 18b

Sources: Ishikawa, Guide to Quality Control (1976); Ohno, Toyota Production System (1988); 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)