

Plan–do–check–act (PDCA)

Improve a process or a deliverable in small, tested steps.



Our own loop, after Shewhart and Deming. History: Moen and Norman (2010).

WHAT IT IS

A loop for learning by testing. **Walter Shewhart** (1939) described it. **W. Edwards Deming** taught it in Japan in 1950 as plan–do–check–act, naming it the Shewhart cycle; he later preferred ‘study’ to ‘check’ (Moen and Norman, 2010). A **retrospective** or lessons-learned review is one turn, if tested and checked.

HOW IT WORKS

- 01 Plan: the problem, a target, one change to test.
- 02 Do: try the change small; record what happens.
- 03 Check: compare the result with the target.
- 04 Act: adopt it as the standard, or adjust and go again.

MID-LEVEL · WORKED EXAMPLE

Apply it well

The situation: A city team is moving parking permits online in 8 months. Its service-desk staff ask about 12 questions a day on one chapter of their new desk guide.

Plan: rewrite that chapter, aiming to halve the questions, to 6 a day. Do: 2 staff use it for a week. Check: questions fall to 5 a day, under the target. Act: the other chapters are rewritten the same way.

In the exam: Present a corrective action as a small loop: the target, the change you tested, the evidence that it worked, and what became the new standard.

SENIOR · WORKED EXAMPLE

Design and lead it

The situation: A city is joining 14 online services under one login over 30 months, in groups, with 2 suppliers and a steering board that owns the common quality standard.

After each group goes live, a lessons review with both suppliers compares defects with the targets. The board approves one change to the standard before the next group starts; the next review checks it.

In the exam: Show the loop as governance: how a lesson from one release or supplier changed the standard for the others, who approved it, and how you checked that it worked.

WHERE IT SITS

IPMA · ICB4	PMI · PMBOK® GUIDE 8 · PMP® EXAM	APM · BOK 8 · PMQ EXAM
4.5.6: the Deming cycle in its knowledge list; regular check-ups and improvements (4.5.6.5)	Standard §3.5, quality principle; retrospectives, pp. 194–195. PMP (Project Management Professional) outline: Business Environment, task 6	BoK (APM's Body of Knowledge) §5.3.4 Continuous improvement: the Shewhart cycle as its basis. PMQ (APM's Project Management Qualification) outcome 8b: learning from experience

Sources: Shewhart, Statistical Method from the Viewpoint of Quality Control (1939); Moen & Norman (2010), Circling back; 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)

Key: IPMA = International Project Management Association; ICB4 = IPMA's Individual Competence Baseline (4.5.6 etc.: its competence elements); PMI = Project Management Institute; PMBOK® Guide = PMI's body-of-knowledge guide; APM = Association for Project Management. Unofficial study material for IPMA®, PMI® and APM exams. Not affiliated with, endorsed by or approved by IPMA, PMI or APM, and not an accredited or endorsed training provider. IPMA® and IPMA ICB® are registered trademarks of IPMA in Switzerland and other countries. PMI, PMP, CAPM and PMBOK are registered marks of Project Management Institute, Inc. APM is a trade mark of the Association for Project Management. Other marks belong to their owners. PMP® exam facts are from PMI's public PMP® Examination Content Outline (2026); check the current version on pmi.org. APM's qualifications are its own; this series is not an APM Accredited Provider or APM Endorsed. Examples use a fictional city and its projects. Levels (this series' labels): Mid-level = moderately complex projects (IPMA Level C, PMI's PMP®); Senior = complex projects and people (IPMA Level B, APM's Chartered Project Professional).

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