ROI of AI-Assisted Software Development — Methodology Review

Dodone External Methodology Library | Source-faithful research brief | Version 1.0

31 October 2026

Document control

Field	Value
Document ID	DODONE-EXT-002
Originating publisher	Google Cloud / DORA
Source publication	Report version v.2026.1; report page updated 22 April 2026
Research cut-off	31 October 2026
Status	Independent source review — not an external audit
Publication type	Public interactive engineering ROI calculator
Source policy	Original public material only; no Dodone adaptation
Full source links	See section 14

Executive summary

DORA provides a public financial calculator as a companion to its ROI of AI-assisted Software Development report. The tool combines technical workforce inputs, existing and target delivery performance, product feature value, reliability outcomes and first-year costs, including an adoption J-curve. DORA explicitly cautions that its outputs are uncertain estimates intended to inform organisational discussion.

Scope: Potential first-year financial return from deploying AI in software development, evaluated through delivery, staffing and reliability effects.

Important: This paper documents published source material only. A missing equation or input is reported as not available in the reviewed sources; no substitute model or artificial worked example has been created.

1. Purpose and scope

Potential first-year financial return from deploying AI in software development, evaluated through delivery, staffing and reliability effects. This paper is an independent explanatory analysis of published methodology; it is not endorsed by the originating publisher.

2. Counterfactual and baseline

The calculator requests current deployments, features, change-failure rate and recovery time, then compares them to target post-AI delivery metrics. It also requests current product-portfolio revenue and other baseline financial variables. It treats the transition period through a J-curve productivity reduction.

3. Published model inputs and variables

- Technical staff FTE and average fully loaded staff salary.
- Product portfolio revenue and cost per hour of downtime.
- Current and target deployments per year and features per year.
- Idea success rate and average revenue impact per successful feature.
- Current and target change failure rates; recovery time for failed deployments.
- Net developer time saving and annual licence, other per-user, infrastructure and training costs.
- J-curve productivity drop magnitude and duration.

4. Cost methodology

The calculator exposes first-year hard costs for AI tooling and training and a separate J-curve productivity cost. Specific fields include annual licence cost, other annual AI cost per user, extra infrastructure cost and training cost per user.

5. Benefit and value methodology

The displayed first-year value consists of headcount reinvestment capacity, revenue from additional feature deployments and downtime impact (which can be positive or negative). The total value is compared with the first-year investment.

6. Published formulas and calculation logic

- The public interface displays first-year value, first-year investment, net benefit, ROI and payback outputs.
- The source reviewed does not expose all calculation expressions and internal coefficients behind those outputs as an accessible, complete equation listing.

7. Publisher-reported worked examples or results

Published calculator illustration: first-year value $11,646,000 (headcount reinvestment $11,000,000; feature revenue $990,000; downtime impact -$344,000). First-year investment $8,365,000 (hard costs $5,065,000 and J-curve cost $3,300,000). Displayed net benefit

$3,281,000; ROI 39.2%; payback 0.7 years. These are figures shown on the public calculator, not newly constructed examples.

8. Sensitivity, attribution and uncertainty

DORA expressly labels calculator outputs high-uncertainty estimates. The tool allows users to adjust many operating and financial assumptions; it is not evidence that gains of any particular magnitude will materialise at a given firm.

9. Author-scope qualifications and methodological limitations

- Estimates potential first-year value, rather than independently audited company outcomes.
- Capacity value and revenue delivery assumptions depend on user forecasts.
- Not every positive or negative effect of AI in the software delivery lifecycle is covered.

10. Independent reproducibility assessment

Partial from the public inputs and displayed outputs. The full official report is linked through a separate report request/page; only the accessible calculator and public landing information were relied on here.

11. Public-information gap register

Information unavailable or incomplete	Source review status
Complete public, machine-readable set of calculator equations and code: not established from the accessible interface and linked report landing page.	Not publicly available / insufficiently specified in reviewed source
Empirically validated universal default assumptions: not established.	Not publicly available / insufficiently specified in reviewed source
Independent attribution of incremental feature revenue for any user-entered case: not established.	Not publicly available / insufficiently specified in reviewed source

12. Independent reviewer observations

These observations address verifiability and scope; they are not additions to the publisher's financial method.

Confirm each numerical claim against the original publication before relying on it for an investment decision. Do not treat conceptual frameworks or opportunity estimates as if they were a reproducible company-level ROI algorithm.

Do not fill source gaps using assumed discount rates, value multipliers, proprietary weights, industry benchmarks, model code or synthetic test fixtures. An independent audit of calculations is possible only where sufficient primary data and methodology are disclosed.

13. Audit and publication checklist

- Primary publisher and publication dates have been identified.
- Source-specific equations are separated from descriptive process narratives.
- All author-reported numerical examples are identified as publisher examples.
- Unavailable parameters and proprietary elements are explicitly marked.
- No Dodone adaptations or fabricated examples have been introduced.
- Claims of complete numerical reproducibility are limited to publicly verifiable material.

14. Original source links and attribution

The following are the original publisher resources reviewed. Each link is clickable in the PDF and editable Word file.

S1 — DORA ROI calculator — https://dora.dev/ai/roi/calculator/

S2 — DORA ROI report landing page — https://dora.dev/ai/roi/report/

S3 — DORA report version checker — https://dora.dev/vc/airoi/

Research cut-off: 31 October 2026. Access conditions and source text may subsequently change.

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