AI Researchers
Embedding Responsible AI in Research

AI READINESS TOOLKIT

UC6-02 Use case 6: Peer review and refereeing

AI-assisted major revision

Turning a major revision decision into a traceable comment register and a response to reviewers

AT A GLANCE

A project-based example of how an approved AI assistant can help authors respond to a major revision decision. It turns reviewer and editor comments into a traceable register, tracks verified changes to the manuscript and supports a point-by-point response letter. Authors keep control of scientific judgement, additional analyses, which comments to accept or rebut, and the final decision to resubmit.

TYPE
Case study

FORMAT
PDF

CONTRIBUTING PARTNER
FEP, University of Porto

WHO IT IS FOR
Authors responding to a major revision decision, and their supervisors

FRAMEWORK BARRIERS
Trust in AI, Protecting expertise, The rules, This task

HUMAN-ONLY BOUNDARY

Scientific judgement, additional analyses, interpretation of results, acceptance or rebuttal of comments, authorship and the final resubmission decision remain entirely with the authors.

Co-funded by the European Union

Co-funded by the European Union. Views and opinions expressed are however those of the author or authors only and do not necessarily reflect those of the European Union or the Foundation for the Development of the Education System. Neither the European Union nor the entity providing the grant can be held responsible for them.

Scenario

A fictional author team has 31 days to revise an applied management paper. The editor asks the authors to clarify the contribution; Reviewer 1 requests stronger theoretical positioning; Reviewer 2 questions the robustness of the empirical design; and Reviewer 3 asks for clearer writing and reporting. The decision package contains 27 distinct comments, including overlapping requests and advice that is partly contradictory.

The lead author uses an institution-approved AI environment to organise the revision. Before uploading any material, the team checks the journal's AI policy, confirms co-author agreement, removes reviewer names and unnecessary metadata, and records that the AI may support organisation and drafting but may not invent evidence, choose the scientific response, or decide whether the paper is ready.

Responsible workflow

1 Confirm permission and scope. Check journal, institutional, funder and co-author rules. If the material cannot be processed in the chosen environment, stop and work offline.

2 Create a complete comment register. Extract each editor and reviewer comment verbatim, assign a stable ID (E1, R1.1, R2.3), and retain its source and context. Do not paraphrase away nuance.

3 Map and prioritise requests. Group comments by theory, methods, evidence, reporting and presentation; flag dependencies, duplication and contradictions; propose priorities without treating repetition as proof.

4 Record the authors' decision. For every item, the authors choose accept, partially accept, respectfully rebut, seek clarification or defer. Each decision names the evidence or reasoning needed.

5 Implement verified changes. AI may help locate passages and draft alternatives, but authors supply and verify all new analyses, references, numbers and interpretations. No result may be generated or inferred by the AI.

6 Draft the point-by-point response. Quote the comment, answer directly, explain what changed and state where it changed. For rebuttals, acknowledge the concern and give concise scholarly reasons.

7 Run a final consistency audit. Check that every comment has a response, every promised change appears in the manuscript, claims match evidence, and page/line references are added only after pagination is final.

Worked example

> **Reviewer 2, comment 3** "The manuscript repeatedly uses causal language, but the observational design appears to support association rather than causation."

AI support. The system lists the causal phrases in the abstract, introduction and conclusion; links the comment to the methods section; and suggests two response paths: provide a defensible identification argument with verified analyses, or recalibrate the claims.

Human decision and action. The authors decide that the design does not identify a causal effect. They revise the language to association, add a limitation, and reframe the contribution around a documented relationship. They verify each changed claim against the actual results.

Response excerpt. “We agree that our original wording overstated what the observational design can establish. We have replaced causal terms with associational language in the abstract, introduction and conclusion, and added a limitation explaining that unobserved confounding cannot be excluded. The revised contribution now concerns the strength and consistency of the observed association. Page and line references will be inserted and verified after final pagination.”

ID	REQUEST / RISK	AUTHOR DECISION & EVIDENCE	RESPONSE / LOCATION
R2.3	Causal language exceeds the observational design.	Accept. Recalibrate claims; add a limitation; verify every affected passage against results.	Draft response completed. Add final page/line references after pagination.

Reusable prompt

PROMPT

You are a revision coordinator supporting the authors after a Major Revision. Work only with the authorised files provided. First, create a complete comment register. Preserve each editor and reviewer comment verbatim, assign a stable ID, and separate explicit requests from your interpretation. For each item, propose: the issue, manuscript locations to inspect, dependencies, evidence the authors must verify, and possible response options. Do not choose the scientific response. Do not invent references, analyses, results, journal rules, quotations or page/line numbers. After the authors record their decisions and verified changes, draft a concise, respectful point-by-point response. Finish with an audit identifying unanswered comments, unsupported promises, contradictions, missing manuscript changes and cross-references that still require human checking.

Recommended response structure

Opening to the editor: thank the editor and reviewers; summarise the main changes without claiming that every concern was accepted.

Point-by-point sections: reproduce each comment, label it consistently, respond directly and identify the verified manuscript change.

Respectful disagreement: acknowledge the concern, explain the reason for the authors' decision and state any clarifying change made.

Closing: confirm that the revised manuscript and response were checked by all authors and invite further guidance.

Risks and safeguards

Confidentiality or policy breach — check the journal's rules and the approved environment; redact names and restricted material; stop if permission is unclear.

Automation bias — maintain an author decision log with accepted, partially accepted, rebutted, deferred and manually verified items.

Fabricated evidence — allow only author-supplied analyses, numbers and references; require a visible “verification needed” label whenever evidence is absent.

> Inconsistent revision package — perform a final three-way comparison of the reviewer reports, response letter and revised manuscript.
>
> Loss of authorial voice — use AI drafts as editable proposals; all authors approve the scientific reasoning and final language.

Success indicators

> Every editor and reviewer comment has a stable ID, status, decision and response.
>
> Every accepted request is linked to a verified manuscript change; every rebuttal is linked to explicit scholarly reasoning.
>
> No response contains invented evidence or unverified page, line, result, reference or policy claims.
>
> The editor can quickly see the principal revisions and the authors retain a transparent audit trail.

About this resource

TITLE	AI-assisted major revision
TOOLKIT REFERENCE	UC6-02, use case 6: Peer review and refereeing
DEVELOPED BY	FEP University of Porto, Fábio Duarte
SUGGESTED CITATION	AI Researchers (2026). AI-assisted major revision. AI Readiness Toolkit, UC6-02. FEP University of Porto, Fábio Duarte. airesearchers.eu
QUALITY ASSURANCE	Reviewed by the AI Researchers consortium for quality, categorisation and alignment with the AI Engagement Framework. External peer review by senior academics is under way, and the item may be updated as a result.
VERSION	1.0, November 2026
PROJECT	AI Researchers: Embedding Responsible AI in Research. Erasmus+ Cooperation Partnership in Higher Education, KA220-HED-66835D2B. October 2025 to March 2028.
CONSORTIUM	University of Lodz (coordinator), FEP University of Porto, UPF Barcelona School of Management, ACEEU, NIPI (OPI PIB), European E-learning Institute and Momentum Marketing Services

Co-funded by the European Union

Co-funded by the European Union. Views and opinions expressed are however those of the author or authors only and do not necessarily reflect those of the European Union or the Foundation for the Development of the Education System. Neither the European Union nor the entity providing the grant can be held responsible for them.

AI Researchers
Embedding Responsible AI in Research