

AI-Driven Decision Fatigue and Its Impact on Managerial Judgment in Hybrid Organizations

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Abstract : Artificial intelligence can help managers sort information, forecast outcomes, and prepare decisions, yet it can also generate a continuous stream of recommendations requiring review. In hybrid organizations, managers must assess those recommendations while coordinating employees across locations and communication channels. This paper examines whether AI-supported workflows may reduce some forms of effort while increasing the cumulative burden of verification, comparison, and accountability. It uses a structured secondary analysis of thirteen academic and institutional publications covering decision fatigue, human-AI judgment, algorithmic management, and hybrid work. Published findings show substantial productivity gains in several AI-assisted tasks, but do not establish equivalent gains in managerial judgment. A meta-analysis of 106 experiments found that human-AI combinations performed worse than the better standalone human or AI system on average. A separate review found evidence consistent with decision fatigue in 45% of quantitatively assessed cases in healthcare decision-making, although definitions and methods varied. The evidence supports a conditional account: AI may ease managerial work when recommendations are relevant and easy to verify, while frequent prompts, uncertain outputs, and fragmented communication may increase judgment demands. No reviewed study directly estimates the causal effect of AI-driven decision fatigue among managers in hybrid organizations. The paper therefore presents a testable framework and identifies the evidence needed to evaluate that relationship.

Keywords: artificial intelligence; decision fatigue; managerial judgment; hybrid work; algorithmic management; cognitive workload

Introduction

Managers in hybrid organizations make decisions through a mixture of meetings, messages, dashboards, and informal exchanges. AI adds another source of information to this environment. A system may rank applicants, summarize team activity, forecast demand, flag unusual performance, or recommend a response to an employee concern. Each output can save time, but each can also create a decision: whether to read it, trust it, check its basis, consult someone else, or act.

The central question is therefore not simply whether AI produces recommendations quickly. It is whether managers can evaluate those recommendations accurately over a working day. **Decision fatigue** refers here to a possible deterioration or simplification of judgment as effortful decisions accumulate. **Managerial judgment** includes the ability to identify relevant evidence, notice exceptions, weigh consequences for employees, and give reasons for a final choice. These concepts are related, but they are not interchangeable: a manager might report high workload while maintaining sound judgment, or feel confident while accepting a poor recommendation.

Hybrid work makes the question consequential. A manager may lack immediate access to the context that colleagues



would otherwise provide in person. An apparently precise AI recommendation can arrive before the manager has heard an employee's explanation or checked whether data from remote and office-based workers are comparable. Conversely, well-designed AI may reduce the effort of gathering routine facts and leave more attention for difficult cases.

This paper asks: **How might AI-supported decision workflows affect managerial decision fatigue and judgment in hybrid organizations, according to existing evidence?** Its contribution is to connect four research areas that are often studied separately: cumulative decision demands, reliance on AI advice, algorithmic management, and distributed work. The analysis distinguishes observed results from the proposed mechanisms linking them.

Literature Review

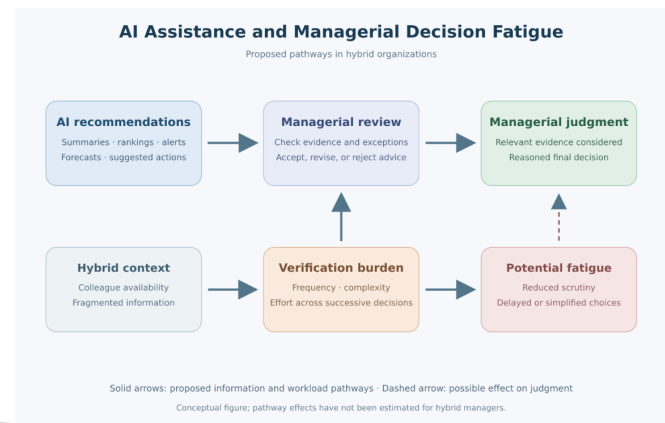
Decision fatigue and cumulative judgment demands

Decision fatigue offers a useful starting point, although the empirical literature requires caution. Maier and colleagues' preregistered review of healthcare decision-making included 82 publications. Of the cases that quantitatively assessed the decision-fatigue hypothesis, 45% reported a significant effect. The authors also found inconsistent definitions and inadequate operationalization. Healthcare findings cannot be transferred directly to corporate managers, but they show why a paper on managerial fatigue must specify both the sequence of decisions and the behavior expected to change. [PubMed](#)

For AI-assisted management, the relevant effort may include more than choosing between alternatives. Managers may have to determine whether an output applies to the case, inspect the underlying information, reconcile conflicting recommendations, and document why they accepted or rejected advice. Research on automation bias and verification complexity associates overreliance on decision support with demanding checks and cognitive load. It provides a plausible mechanism, though its reviewed settings do not establish the size of any effect in hybrid management. [PMC](#)

AI assistance and the quality of decisions

Evidence that AI improves task productivity is substantial, but productivity is not a complete measure of judgment. In an experiment involving professional writing tasks, Noy and Zhang reported that access to ChatGPT reduced average



completion time by 40% and increased assessed output quality by 18%. Brynjolfsson, Li, and Raymond found a 15% average increase in customer-support issues resolved per hour after workers received access to an AI assistant. These studies concern particular tasks and outcomes; neither measures managers' fatigue across repeated, consequential decisions. [PubMed](#)

A field experiment involving 758 knowledge workers provides a further distinction. For tasks within AI's demonstrated capability, AI-assisted participants completed 12.2% more tasks and worked 25.1% faster on average. The researchers also described a "jagged" capability frontier: assistance could improve some tasks while worsening performance on others. A manager cannot infer from a tool's success at summarizing a report that it will judge a sensitive staffing decision equally well. [Organization Science](#)

Vaccaro, Almaatouq, and Malone's systematic review and meta-analysis examined 106 experiments and 370 effect sizes comparing humans alone, AI alone, and human-AI combinations. Human-AI combinations performed worse than the better standalone performer on average. Among decision tasks, the pooled effect for human-AI synergy was negative ($g = -0.27$; 95% CI -0.44 to -0.10). This does not mean that managers should avoid AI. It means that adding a human review step or an AI recommendation does not automatically improve the final decision; task design and the division of responsibility matter. [Nature Human Behaviour](#)

People's responses to algorithmic advice can also differ. Dietvorst, Simmons, and Massey documented reduced willingness to use an algorithm after people observed it make errors. Logg, Minson, and Moore found circumstances in which people preferred algorithmic advice to human advice. Taken together, these studies suggest that managerial reliance should be examined as a variable behavior rather than assumed to be uniformly excessive or insufficient. [PubMed](#)

Algorithmic management and hybrid work

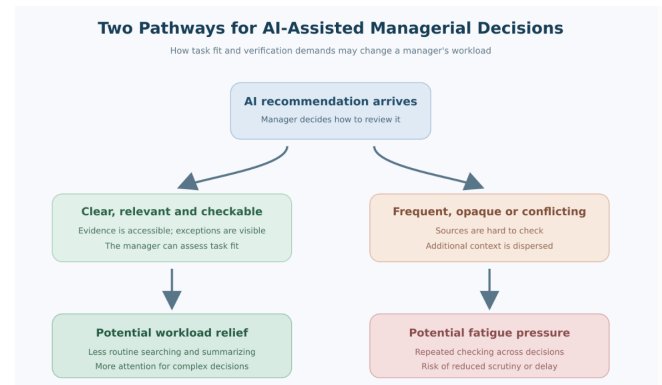
The International Labour Organization defines algorithmic management in terms of systems that use tracked data to organize, assign, monitor, supervise, or evaluate work. Some use AI, while others rely on simpler rules. This distinction matters: the present paper concerns managers evaluating **AI-generated advice**, not every digital scheduling or monitoring system. ILO research documents the spread of algorithmic management beyond platform work and raises questions about work organization and human oversight. [International Labour Organization](#)

An OECD employer survey across six countries examined adoption, managerial decision-making, and trust in algorithmic management tools. Its reports describe managers who perceive improvements in decision quality alongside concerns about accountability and difficulty following a tool's logic. These are reported perceptions, not proof that objective decision quality improved or that decision fatigue occurred. They do, however, show that reviewing tool outputs is a live managerial issue. [OECD](#)

Hybrid work supplies a distinct organizational context. Bloom, Han, and Liang's randomized trial included **1,612 employees** at a technology company. Over six months, attrition was **7.2%** in the office-based control group and **4.8%** in the hybrid group, while reported work satisfaction rose from **7.84** to **8.19**. The study found no overall performance damage from hybrid work. These findings guard against treating hybrid arrangements themselves as evidence of poor decisions. [Nature](#)

Other work identifies possible coordination challenges. Yang and colleagues analyzed communication among **61,182 Microsoft employees** during a shift to firm-wide remote work and reported more static, siloed collaboration networks, less synchronous communication, and more asynchronous communication. This was a study of remote work during 2020, not a direct test of contemporary hybrid management. Nevertheless, it identifies channels through which contextual information available to a decision-maker may change. Research on virtual communication has also found reduced creative idea generation in its studied laboratory and field settings. Neither finding establishes that hybrid managers are fatigued; both help define conditions a future study should measure. [Nature Human Behaviour](#)

The literature thus supports three propositions without yet demonstrating their complete causal chain: AI can save effort on suitable tasks; AI advice can require effortful verification; and distributed communication can affect access to context. Whether these combine to produce decision fatigue and poorer managerial judgment remains an open empirical question.



Research Objectives and Propositions

The paper has three objectives: to identify decision demands introduced or removed by AI; to examine how hybrid communication may alter verification; and to specify observable indicators of managerial judgment.

The resulting propositions are:

- **P1:** Frequent AI recommendations will be associated with greater decision fatigue when managers must perform substantial independent verification.
- **P2:** Relevant, reliable recommendations with accessible supporting evidence will be associated with lower routine workload.
- **P3:** Limited access to employee or team context will strengthen the association between verification demands and judgment errors.
- **P4:** The relationship between AI use and judgment will vary by task type, decision stakes, and the manager's ability to challenge an output.

These are propositions for future testing, not hypotheses confirmed by the publications reviewed here.

Methodology

Research design

This is a structured secondary analysis of published evidence. It does **not** report an original manager survey, an organizational experiment, or pooled participant-level data. Sources were selected for direct relevance to at least one of four components: decision fatigue, AI-supported human judgment, algorithmic management, or hybrid and remote coordination. The final set comprises thirteen verifiable academic or institutional publications. The analysis preserves each source's original population and outcome rather than combining incompatible samples.

Each publication was coded conceptually for its design, setting, measured outcome, quantitative finding where reported, and relevance to the research question. Experimental evidence was used for claims about effects within its tested setting. Surveys and institutional reports were used to describe reported practices or perceptions. Reviews were used to assess patterns and uncertainty across studies. No statistical significance test or meta-analysis was newly performed for this paper.

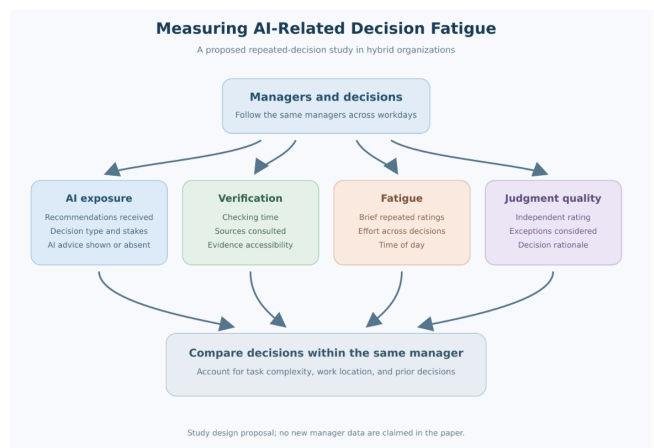


Table 1. Evidence used in the secondary analysis

Evidence area	Publication	Original design or scope	Outcome used here
Decision fatigue	Maier et al. (2025)	Systematic review; 82 included publications	Evidence and measurement limits for fatigue
AI-assisted task work	Noy & Zhang (2023)	Randomized writing-task experiment	Time and assessed output quality
AI in deployed work	Brynjolfsson et al. (2025)	Staggered AI-assistant introduction	Customer-support productivity
AI and knowledge work	Dell'Acqua et al. (2026)	Experiment; 758 workers	Performance on tasks within AI's capability
Human-AI judgment	Vaccaro et al. (2024)	Meta-analysis; 106 experiments	Combined versus standalone

			performance
Hybrid work	Bloom et al. (2024)	Randomized trial; 1,612 employees	Attrition and satisfaction
Distributed coordination	Yang et al. (2022)	Communication analysis; 61,182 employees	Collaboration patterns

The remaining six publications inform the interpretation of reliance, verification, virtual interaction, and workplace governance. A figure from one row cannot be treated as an estimate for another row: a productivity percentage from customer service, for example, is not a managerial judgment score.

Proposed measures for direct empirical testing

A future study could follow managers over multiple working days, recording each consequential decision and whether AI advice was shown. The **exposure** would be the number of AI recommendations encountered, separated by task and decision stakes. **Verification demand** would be measured through time spent checking evidence, number of additional information sources consulted, and whether the manager could explain the recommendation. Repeated, brief reports of mental effort could capture within-day changes without relying solely on an end-of-week recollection.

Judgment quality would require independent assessment against criteria set before examining the manager's choice. For example, evaluators could assess whether a decision used relevant evidence, addressed a documented exception, and supplied a defensible rationale. Where decisions have objectively known outcomes, those outcomes could supplement expert ratings. Hybrid context would be measured through work location, the availability of relevant colleagues, communication mode, and time needed to obtain missing information.

A suitable analysis would compare decisions **within the same manager**, accounting for task complexity, time of day, prior decisions, and organizational unit. Such a design would reduce, though not eliminate, the risk of mistaking difficult tasks for AI-induced fatigue. Random assignment of the timing or presentation of suitable AI advice would offer stronger causal evidence where operationally and ethically feasible.

Results

The results below are findings **reported in the source publications** and organized according to the preceding

method. They are not observations from a common sample of hybrid managers.

Table 2. Quantitative findings relevant to the research question

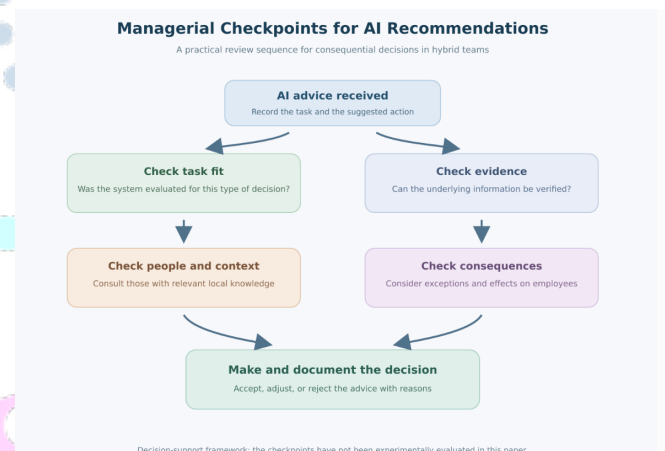
Source and setting	Reported result	What the result establishes
Maier et al.; healthcare decision-fatigue review	82 publications included; 45% of quantitatively assessed cases supported a significant fatigue effect	Fatigue effects appear in some repeated-decision settings, with substantial inconsistency
Noy & Zhang; professional writing tasks	Average time 40% lower ; assessed quality 18% higher with ChatGPT	AI improved these task outcomes under experimental conditions
Brynjolfsson et al.; customer support	Issues resolved per hour 15% higher on average with AI access	AI assistance improved this workplace productivity measure
Dell'Acqua et al.; knowledge tasks within AI capability	12.2% more tasks completed; 25.1% faster on average	AI benefits depended on the tasks studied
Vaccaro et al.; human-AI decision tasks	Synergy effect $g = -0.27$; 95% CI -0.44 to -0.10	Combination did not reliably exceed the better standalone performer
Bloom et al.; hybrid-work trial	Attrition 7.2% control versus 4.8% hybrid	Hybrid work reduced attrition in this company trial

The original reports support every figure in Table 2. Their denominators, designs, and outcomes differ, so percentages must not be averaged or compared as if they were alternative estimates of one effect. [PubMed](#)

The strongest direct evidence for **AI-related performance** comes from the experiments and workplace study: assistance improved specified writing, consulting, and customer-support outcomes. The strongest evidence for a **limit to simple augmentation** comes from the human-AI meta-analysis. The

decision-fatigue review indicates that cumulative decision demands sometimes affect choices, but its population was healthcare professionals. Hybrid and remote-work studies establish features of the work setting, not the effect of AI on manager fatigue.

Accordingly, the secondary analysis yields **no defensible numerical estimate** such as “AI increases manager fatigue by X%” or “hybrid managers make Y% more errors.” Those quantities require direct observation. The defensible result is a bounded one: published studies jointly justify testing a conditional relationship, but do not establish its magnitude or direction for hybrid managers.



Discussion

AI may reduce the cost of obtaining an initial answer while increasing the work needed to decide whether that answer should be used. This distinction explains why productivity gains and judgment risks can coexist. A recommendation that accurately handles a routine scheduling problem may spare a manager considerable effort. A recommendation about an employee's performance, built from incomplete activity data, may require interviews, contextual checks, and a carefully documented explanation. Counting both as a single “AI-assisted decision” would obscure the difference.

Verification is the proposed link between AI exposure and fatigue. The mechanism is most plausible when recommendations are frequent, difficult to interpret, and costly to check. Under those conditions, a manager may start accepting outputs with less scrutiny, reject them indiscriminately, or postpone decisions. Each behavior could be investigated separately. The existing evidence does not justify assuming that all three occur, or that one response is typical of hybrid managers.

Hybrid arrangements may change the cost of verification. When relevant colleagues are available through timely, clear communication, location may have little bearing on a

decision. When information is dispersed across messages, meetings, and systems, checking an AI output may require more coordination. Yang and colleagues' remote-work findings make information flow a reasonable variable to study; Bloom and colleagues' trial shows why it would be unsound to presume that hybrid work damages overall performance. [Nature Human Behaviour](#)

The meta-analysis also cautions against treating a manager's final approval as sufficient oversight. A human–AI pair can underperform the better individual contributor. Effective oversight depends on whether the person sees the information needed to detect mistakes, has time to use it, and can challenge the system without undue friction. At the same time, automatically requiring extensive checks for every low-stakes recommendation could consume attention better reserved for consequential decisions. This is a design implication inferred from the reviewed evidence, not an intervention tested by this paper. [Nature Human Behaviour](#)

Organizations examining this issue should therefore measure **decision quality and verification effort alongside speed**. They should distinguish a system that drafts a summary from one that ranks people or recommends sanctions. In personnel decisions, records of what evidence was available, what the manager checked, and why the final choice differed from the recommendation would permit a more meaningful assessment than usage counts alone.

Limitations

This paper's evidence comes from different occupations, countries, technologies, and periods. Healthcare decision fatigue, customer-support productivity, consulting-task performance, and hybrid-work retention cannot be interpreted as outcomes from one organizational experiment. Some reviewed studies address fully remote work rather than hybrid work. Productivity and satisfaction measures do not directly measure the quality of sensitive managerial decisions.

The secondary analysis is structured but not a new systematic review with an exhaustive search, formal risk-of-bias grading, or pooled estimates. Its proposed pathway may also run in both directions: managers handling difficult decisions may seek more AI advice and report more fatigue, even if the AI did not cause the fatigue. Direct longitudinal or randomized evidence is needed to separate these explanations.

Conclusion

Published evidence shows that AI can make specified work tasks faster, while human–AI collaboration does not consistently improve decision performance. Evidence for decision fatigue exists in repeated-decision settings, and distributed work can alter access to contextual information.

Whether AI itself produces decision fatigue and poorer managerial judgment in hybrid organizations remains unmeasured by the evidence reviewed here.

The most useful next study would follow managers' decisions over time, record the AI advice they encounter, measure verification effort, and independently assess decision quality. That design could identify when AI saves managerial attention and when evaluating its outputs becomes an additional burden.

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