

The Power User Trap

When AI Adoption Becomes a Retention Risk

Organizations are deploying AI tools to improve efficiency and scale productivity. The technology works because someone makes it work. That burden does not distribute evenly.

In most organizations, a small group of employees becomes the go-to resource for AI implementation. They learn the tools first, troubleshoot failures, and train colleagues. These employees are usually strong performers with deep institutional knowledge who must function in a continuous state of doubt: Is the output reliable? Should I verify this manually? Where is the hallucination?

They are the Power Users. When they leave, organizations lose both the expertise and the implementation capacity. The exit is coded as personal.

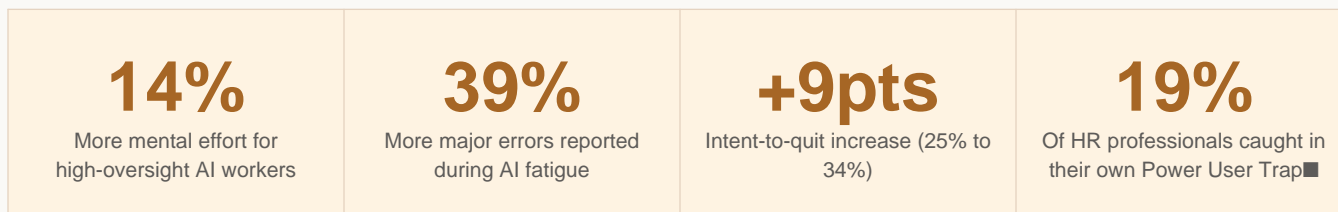
The Power User Trap: employees operating in continuous doubt, constantly verifying and validating AI outputs without organizational recognition of the cognitive burden. It is one mechanism through which Invisible Attrition occurs, where leadership capacity erodes before retention metrics detect risk.

THE UNMEASURED COGNITIVE COST

Research confirms what many organizations are experiencing but not measuring. A March 2026 study in Harvard Business Review of 1,488 full-time U.S. workers found that workers providing high degrees of AI oversight expended 14% more mental effort and experienced 12% more mental fatigue than those with low oversight requirements. Researchers identified what they termed "mental fatigue from excessive oversight of AI tools beyond one's cognitive capacity."

The cognitive strain carries measurable business costs. Workers experiencing mental fatigue from intensive AI oversight reported making major errors 39% more frequently. Decision fatigue increased by 33%. Intent to quit rose from 25% to 34%.

For HR leaders, this represents a retention risk that current measurement systems are not designed to capture.



WHERE THE RISK CONCENTRATES

The BCG research found significant variation by function. Marketing roles reported the highest mental fatigue rate at 26%, followed by HR at 19%, operations at 18%, engineering at 18%, and finance at 17%. These are knowledge work roles where strong performers adopt AI tools quickly, train others, and maintain productivity while managing implementation burden. The work rarely appears in job descriptions, performance reviews, or workload assessments.

“I was working harder to manage the tools than to actually solve the problem.” — Senior engineering manager, BCG study

This is the operational signature of the Power User Trap[■]. The employee appears productive in output metrics while absorbing unsustainable cognitive load privately. HR sees the exit after the retention opportunity has passed.

WHAT ORGANIZATIONS CAN MEASURE

Preventing this requires a shift from monitoring AI tool adoption rates to monitoring AI implementation burden. Three measurement priorities stand out.

Monitor simultaneously	Productivity peaks at three AI tools used simultaneously, then declines. Incentivizing token consumption or AI-generated output as performance metrics inadvertently rewards cognitive overload.
Clarify workload expectations	When employees believed their organization expected them to accomplish more work due to AI, mental fatigue scores were 12% higher. Explicit expectations reduce ambiguous cognitive load.
Track oversight distribution	Identify who is supporting AI tool adoption beyond their formal role. Determine whether those individuals are receiving workload adjustments. Quantify the hours per week that power users spend on AI-related support work.

FROM DEPLOYMENT TO ACCOUNTABILITY

AI tool deployment is often treated as a technology decision. The governance implications are workforce sustainability and leadership continuity.

When organizations adopt AI without measuring how implementation burden is distributed, they create retention risk they cannot see. Power users absorb the cost privately. Workload remains undocumented. Exit data shows only voluntary departure.

The BCG study also found that 19% of HR professionals using AI reported experiencing elevated cognitive strain from AI oversight. The function responsible for managing workforce health may itself be caught in the Power User Trap[■].

Invisible Attrition■ is the unmeasured erosion of leadership and performance capacity that occurs before traditional retention metrics detect risk. The Power User Trap■ is one of its mechanisms. HR records the departure. The cause was never measured.

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