Finding 1: AI Adoption Increases Productivity but Reduces Time Spent on Valuable WorkThe DORA 2024 report reveals a paradox in AI adoption.

While increased AI usage boosts individual productivity, flow, and job satisfaction (e.g., a 2.1% increase in productivity and 2.6% in job satisfaction per 25% increase in AI adoption), it surprisingly leads to a 2.6% decrease in time spent on what developers consider “valuable work”.

This outcome likely stems from what DORA terms the "vacuum hypothesis." AI accelerates valuable work such as writing or optimizing code making it more efficient. However, AI has not effectively addressed “toilsome work,” like meetings and bureaucratic tasks. As AI speeds up the valuable parts of the job, developers are left with more unstructured or menial time, which isn’t necessarily refilled with equally meaningful tasks.

This trend may persist or worsen in the short term. Unless organizations intentionally redesign workflows and rebalance workloads to capitalize on AI-created bandwidth, the net gain in productivity may continue to be undermined by an erosion in perceived meaningfulness. To counteract this, companies should use AI not just to speed up tasks, but also to restructure roles eliminating or automating the remaining low-value tasks and creating space for more impactful work.

Finding 2: AI Hurts Software Delivery Performance Despite Process Improvements

One of the most unexpected findings in the report is that increased AI adoption correlates with a decline in software delivery performance. Specifically, a 25% increase in AI adoption corresponds to a 1.5% decrease in delivery throughput and a 7.2% decrease in delivery stability. This is despite improvements in code quality, documentation, and review processes that would traditionally support better delivery metrics.

The DORA team hypothesizes this counterintuitive outcome may be caused by a breakdown in one of DevOps’ core principles: small batch sizes. With AI tools enabling rapid code generation, developers may be introducing larger, more complex changelists. This increases the likelihood of bugs and rework, slowing down deployments and increasing instability despite otherwise improved processes.

This trend may improve slightly as development teams adapt their practices. As organizations become more mature in their AI usage, they will likely learn to couple AI's speed with best practices such as small batch deployments, robust automated testing, and observability. However, if AI adoption continues without a corresponding evolution in software delivery discipline, the negative effects on throughput and stability may linger.

These findings reflect the complex, non-linear nature of integrating AI into development workflows. To avoid unintended consequences, teams must evolve not just their tools, but also their culture and processes.