

Shopify's strategy for AI-first engineering

Since starting in 2021 with GitHub Copilot (pre-ChatGPT), Shopify has now fully adopted AI company-wide across all functions. Head of Engineering Farhan Thawar details how they do it.

Core infrastructure

Centralized enablement layer:

- **LLM proxy:** Bulk token purchasing, usage tracking by team/project, spend alerts
- **MCP servers:** Unified access to all company data (Salesforce, GitHub, G Suite, Slack)
- **Quick deployment:** Drag-and-drop tool for instant internal app deployment

Multi-tool philosophy — "In the world of AI, we don't know yet what's gonna win."

Teams	Tools
Engineering	Cursor, Claude Code, GitHub Copilot, OpenAI Codex, Gemini Jules
Non-engineering	Gumloop workflows, Shopify's LibreChat

Cultural adoption tactics

The "make it look easy" approach:

- Nudging over forcing — showcase what's possible
- Leadership leading by example by showcasing effortless success in AI-powered work
- Prompt library for sharing successful workflows
- Hosting "Hack Days" biannually for experimentation

Accountability measures — AI reflexiveness inquiries included in biannual impact reviews + no punishment for non-adoption, just added visibility on usage

Quality and security approach

Code quality — "We're building the infrastructure for commerce, we need to understand it."

- Extensive automated testing of pre-existing infrastructure
- Human PR reviews are still required for production code — but this will change
- Reversion rates unchanged despite increased output

Security philosophy — Use AI as a pairing partner for vulnerability detection, not just code generation. Prompt specifically for security analysis and fuzzing techniques.

Productivity gains

Shopify saw a 20% overall productivity increase (a conservative estimate), along with:

- More prototyping and exploration (testing 10 approaches vs 2)
- Higher fidelity deliverables from non-engineers (designers, PMs)
- Sales, finance, and HR building "N-of-1" software for themselves
- Designers shipping interactive prototypes instead of static mockups
- Real-time meeting prep dashboards built by non-engineers

Lessons learned (the hard way)

Lesson #1 — Wrong tool for non-engineers

Cursor became too deeply embedded outside R&D, which was expensive and the wrong UX for non-coders.
Solution: Gumloop workflow tools for non-technical teams.

Lesson #2 — Unlimited token usage

While not the norm, an individual can have a five-figure weekly token spend

Solution: Max iteration depth on agentic loops, spending alerts, but still no hard limits to encourage experimentation.

Ongoing challenges

The code review bottleneck — Humans still review all production code. As AI generates code faster, review capacity becomes the constraint.

Comprehension debt — "The brain is a muscle. If you stop using it, it atrophies."

Guardrails:

- Engineers must understand systems 2-3 layers below their work
- AI should reduce toil, not thinking
- Use AI to accelerate learning, not replace understanding
- Formula One mindset: The best drivers understand engines, not just steering

Looking forward: Shopify's 2026 focus

Agentic harnesses — "If you don't figure out how to harness agents in 2026, you will be behind."

Two emerging approaches:

- **Parallel agents:** 10 agents working simultaneously → human review and merge
- **Sequential critique loops:** Deep thinking models interrogating themselves (45+ min sessions)

Shopify's AI transformation delivers measurable productivity through faster prototyping, reduced toil, and expanded exploration — not full automation that eliminates human judgment. The real opportunity isn't replacing people but giving every employee superpowers to do more: engineers testing 10 approaches instead of 2, salespeople building a custom dashboard instead of spending days on decks, and leaders making decisions with AI-powered analysis in minutes. Success requires balancing aggressive enablement with vigilant protection against comprehension debt, ensuring teams use AI to accelerate learning rather than abdicate thinking.