HARVARD BUSINESS REVIEW

AI And Machine Learning

How Ambitious Entrepreneurs Can Use AI to Scale Their Startups

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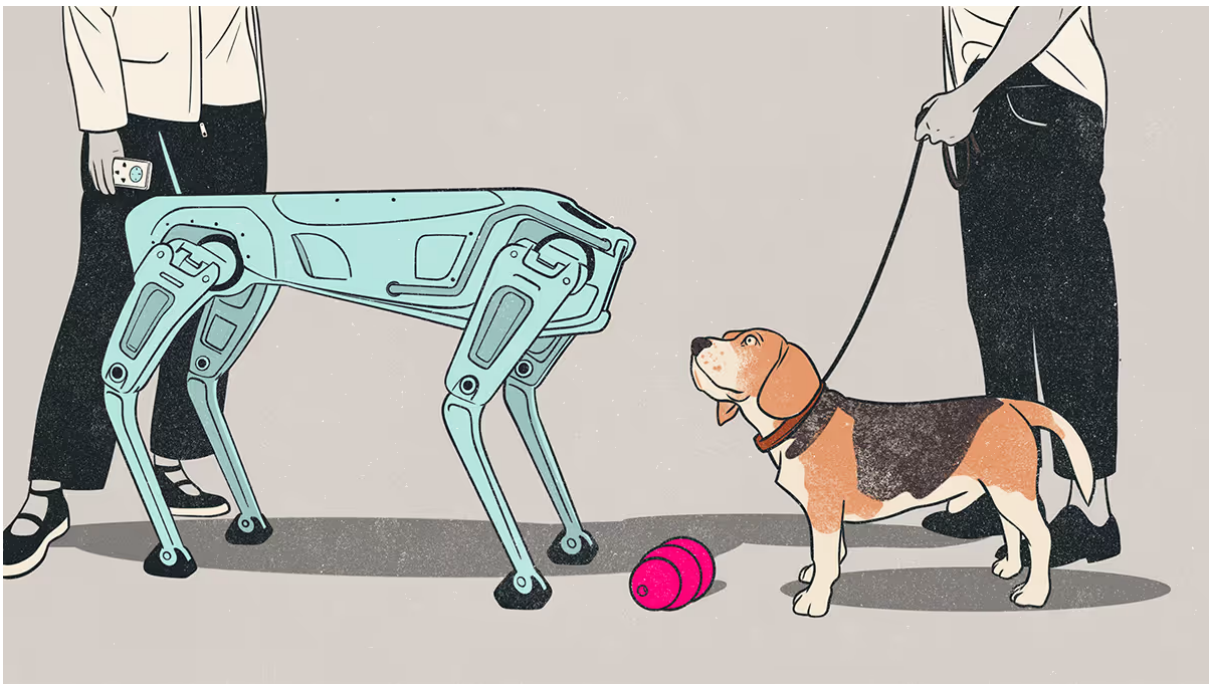

Illustration by Jason Schneider

Summary. Ambitious entrepreneurs are increasingly turning to AI to drive growth, innovation, and efficiency. They have used AI to compete with major players, showing that small teams can achieve outsized impact. Entrepreneurs aiming to hire more than 20 employees... **more**

When the team at Anysphere launched Cursor in 2022—an AI

coding assistant—they weren't a well-funded giant. They were a lean group of developers building a smarter way to write code. Within months, they were competing with tools from OpenAI and GitHub, proving that even the smallest teams can punch far above their weight when powered by AI.

This kind of scalable, intelligent design is no longer the exclusive domain of large firms or tech startups. While Anysphere and others like it are still early in their journey, they demonstrate how ambitious entrepreneurs can harness AI to accelerate decision-making, unlock new markets, and streamline operations.

Our latest Global Entrepreneurship Monitor research (surveying more than 2,300 U.S. entrepreneurs) shows that entrepreneurs with growth ambitions—ambitious entrepreneurs—are far more likely to view AI as critical to their business models and future success. To guide these ventures, we present a practical framework for how to grow with AI below.

The Importance of Ambitious Entrepreneurs

Small businesses account for 99% of all U.S. firms and nearly half of private sector employment, according to the U.S. Bureau of Labor Statistics. They also consistently outpace larger firms in job creation (U.S. Census Bureau). But a much smaller subset—ambitious entrepreneurs—drive the most transformational change. Global Entrepreneurship Monitor data shows that only

18% of U.S. entrepreneurs expect to hire 20 or more employees over the next five years.

These entrepreneurs stand out: they are over four times as likely to introduce novel products or services compared to those anticipating no hiring, positioning them as catalysts for both job creation and innovation. These ambitious entrepreneurs don't just aim to grow—they aim to disrupt, scale, and lead. They see AI as critical to accomplishing those objectives. And in accomplishing them, they contribute disproportionately to economic renewal.

Adoption of AI in Entrepreneurial Businesses

Leaders of large firms widely agree that AI is transforming industries, disrupting workflows, and redefining business models with unprecedented speed. In a global survey by Deloitte, 78% of executives reported plans to increase their AI investments over the coming year. But this isn't just a story of enterprise-level disruption. Generative AI tools are democratizing capabilities once reserved for large teams and big budgets.

Yet despite the proliferation in accessible AI applications, relatively little research exists on perceptions about the adoption of AI among small-to-medium-sized businesses. One of the few available surveys indicated that only 21% of small businesses use AI or plan to use it in the next two years. However, our GEM data reveals a clearer picture: ambitious entrepreneurs—those projecting hiring at least 20 new employees in the next five years

—place much greater emphasis on AI. More specifically, 87%

anticipate that AI will be critical to their business model and strategy in the next three years. Over 90% expect positive impacts on revenue and growth, with most citing benefits like innovative product and service development, improved productivity and efficiency, enhanced customer personalization, and better risk and compliance management.

This isn't just theory. Entrepreneurs may seem better positioned than large firms to integrate AI. New ventures can build AI-driven processes from day one, and more established small businesses often operate with fewer than five employees—agile enough to avoid bureaucracy. But small size can also be a constraint. Limited financial and human resources, particularly for non-tech firms less likely to receive venture funding, mean that growth—not technology adoption—is often a priority. Lacking substantial in-house tech teams, many founders face real challenges adopting and managing advanced technology.

Even among ambitious entrepreneurs, enthusiasm for AI doesn't override apprehension. Top concerns include costs and implementation hurdles (84%), and employee (72%) and/or customer (81%) resistance. Eighty-eight percent cited data privacy as a core concern. And although GEM data shows that ambitious entrepreneurs are more likely to operate in tech-intensive sectors—or use technology aggressively in their businesses—these still represent just over 10% of the ambitious entrepreneurs we surveyed. This suggests that the majority may not have the technology skills or orientation that could enable such investments.

AI has long helped augment human labor. Robotic process

automation handles repetitive back-office tasks, while analytical AI supports faster, more accurate forecasting, pricing, and customer targeting decisions. Generative AI now enables entrepreneurs to test marketing strategies or business models in days instead of weeks—and to create content ranging from pitch decks to code with minimal input.

AI is also transforming industries not traditionally seen as tech-forward. Stuccco, a real estate virtual staging company, is increasingly adding AI capabilities to its renderings of staged properties. ImagineInteriors.ai, for example, is a product trained on human-generated designs that will provide real estate professionals with product visualization and virtual staging. Another offering allows consumers to create their own stagings with "shoppable" products they can actually buy. What once required furniture and weeks of setup will now be done in hours with photorealistic AI renderings—allowing small firms to compete with luxury agencies. These tools don't replace human judgment—they extend it.

More recently, the rise of agentic AI—tools that can perform digital tasks independently—has broadened these possibilities. Entrepreneurs can now automate website creation, transaction processing, customer support, and market research. While human oversight is still essential, these agents significantly increase capacity. In short, AI helps entrepreneurs grow smarter, not just bigger.

A Framework for Entrepreneurs

To guide entrepreneurs—particularly those with high growth

ambitions—we've developed a practical, adaptable framework for AI adoption. It's also useful for those supporting entrepreneurial ventures, including investors, advisors, and ecosystem partners. This framework must be applied with an understanding of each venture's resources, context, and aspirations. A venture with deep technical capabilities will take a different approach than a lean startup with limited financial or technical resources. In all cases, however, one principle holds: AI adoption can't be purely top-down.

Set the direction and pace of AI adoption. The first question entrepreneurs must ask is not just *whether* to adopt AI—but *how*, and *how fast*. While some firms attempt full-scale rollouts, most benefit from incremental adoption rooted in learning from experimentation. Just as entrepreneurs often develop minimum viable products, they can develop minimum viable AI use cases. Automating repetitive tasks, whether with RPA or increasingly AI agents, rarely requires major process overhauls. These early applications build momentum and internal buy-in.

Some businesses prioritize high-value, revenue-driving opportunities like leveraging AI to more efficiently launch new products or expand customer reach. Others begin with lightweight, cost-saving tools embedded in existing systems.

And, entrepreneurs don't need to build internal AI expertise right away. Many start by working with companies that embed AI into tools designed for their industry. Netic, for example, is a solution provider for HVAC, plumbing, and electrical businesses. It offers

AI to automate and predict customer engagement, scheduling,

and marketing. By streamlining these operational tasks, Netic helps itself and its small service firm customers improve efficiency without adding headcount or technical infrastructure.

Tools like these give entrepreneurs a low-risk way to validate AI's potential. For entrepreneurs juggling multiple roles, they free up time to focus on growth. While relying on external AI vendors may not yield immediate competitive advantage, it builds organizational confidence and paves the way for more strategic, in-house experimentation down the road.

Reinforce the complementary relationship with AI. While AI streamlines workflows and automates tasks, it is not a full substitute for human skill. It excels in processing data, detecting patterns, and executing repetitive or rules-based tasks. Humans bring critical thinking, empathy, judgment, and adaptability—skills machines cannot replicate. The opportunity lies in designing workflows where people and machines play to their strengths.

Consider how even service-oriented businesses are augmenting personalization with AI. Style DNA, for example, began as a personal styling service focused on helping users make the most of their existing wardrobes. To scale its impact and improve personalization, the company later integrated AI into its platform—using image recognition and preference learning to suggest curated outfits based on user-uploaded photos and style profiles. While the app generates data-driven fashion recommendations, users remain in control, selecting final looks that reflect their

tastes. This hybrid model blends human creativity with machine

intelligence and also supports sustainable fashion by encouraging reuse rather than new consumption.

In entrepreneurial ventures where employees wear many hats, AI can shift team members from repetitive tasks to more creative, customer-facing roles. This transition deepens engagement, improves retention, and enhances the company's value proposition. Entrepreneurs should frame AI adoption not as a threat, but as a way to amplify human potential.

Implement as an employee-led, peer-inspired initiative. Unlike large firms, most entrepreneurial ventures can't hire dedicated AI teams. But they still can lead in adoption by empowering "citizen developers" or "vibe coders"—curious, tech-savvy employees willing to experiment, even without formal AI training. These team members understand the company workflows and culture, making them ideal early adopters.

Virtually any language model can now generate code. There are also specialized tools that can use AI to create web pages, presentations, business plans, market research, product designs, logos, and almost any other digital component small businesses need. These tools are usually inexpensive or even free. In entrepreneurial settings, this kind of accessibility is a force multiplier.

This bottom-up adoption builds trust, and the GEM data shows that entrepreneurs are concerned that their employees fear AI. But they are more likely to embrace the technology when it's introduced by peers rather than imposed from the top. Over time,

these early adopters become internal champions who model best practices and build organizational AI fluency. Entrepreneurs should reinforce this momentum with targeted development, recognition, and clear incentives. Done right, employee-led AI adoption doesn't just boost productivity, it shapes a more agile and innovative culture.

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Artificial intelligence is no longer the exclusive domain of tech giants. With tools more accessible and implementation costs lower than ever, growth-oriented entrepreneurs are well-positioned to lead. When applied thoughtfully, AI helps small businesses scale faster, operate smarter, and focus human capital on creativity, customer engagement, and innovation.

But unlocking these benefits requires more than experimentation—it demands a mindset shift. The most successful entrepreneurs will treat AI not just as a tool but as a strategic capability embedded across the business.

The next wave of business transformation won't come from Fortune 500 boardrooms alone. It will be powered by bold entrepreneurs who combine ambition with smart AI execution to outlearn, outmaneuver, and outperform the competition.

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