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Business

A.I. Provides Launchpad For All Kinds Of Start-Ups

Entrepreneurs say use of the technology may pave the path to profitability.

By SYDNEY EMBER

Sean Ammirati has been teaching a class on entrepreneurship for more than a decade.

A professor at Carnegie Mellon University, Mr. Ammirati has groups of mostly graduate students start businesses from scratch over the course of the spring semester. Some of the start-ups that his 49 students created this year were classic examples of the form: a dating app for couples in long-distance relationships, a personalized fitness app.

But Mr. Ammirati also noticed something unusual.

"I have a pretty good sense how fast the progress that students should make in a semester should be," he said. "In 14 years, I've never seen students make the kind of progress that they made this year."

And he knew exactly why that was the case. For the first time, Mr. Ammirati had encouraged his students to use generative artificial intelligence as part of their process — "think of generative A.I. as your co-founder," he recalled telling them.

The students began sharing their ideas for use cases on a dedicated Slack channel. They used generative A.I. tools such as Chat-GPT, GitHub Copilot and FlowiseAI to help them with tasks including marketing, coding, product development and recruitment of early customers.

By the end of the class in May, venture capitalists were descending on Carnegie Mellon's campus in Pittsburgh.

"It felt to me like what I felt like in the mid-2000s, when cloud and mobile happened at the same time," said Mr. Ammirati, who is himself an entrepreneur. Generative A.I., he believed, could similarly change innovation "by an order of magnitude."

For all the excitement over the potential impact of generative A.I. tools like ChatGPT, it is not yet obvious how or when this technology will begin to measurably affect economic activity. Many businesses, especially smaller businesses, are still trying to figure out how to use it effectively.



JAMES STUKENBERG FOR THE NEW YORK TIMES

A.I. technology "kind of gives you stilts to get through an obstacle — to get through a minefield," said Steven Bright, who recently started a business.

Yet for some entrepreneurs, generative A.I. is already a game changer. It is helping them write intricate code, understand complex legal documents, cre-

ate posts on social media, edit copy and even answer payroll questions. The result, they say, is that A.I. allowed them to get their companies off the ground more

quickly, and more efficiently, than they would have without it.

The implications could be profound. Start-ups are a crucial well of job growth and economic resilience. By helping to drive innovation, they also contribute to higher productivity — one of the key promises of generative A.I.

The technology “kind of gives you stilts to get through an obstacle — to get through a minefield,” said Steven Bright, who recently started Skittenz, a company that makes colorful coverings for mittens. “You can get from one point to another faster.”

Mr. Bright said he had the idea for Skittenz in late 2022 during a ski trip with his wife when they noticed that everyone was wearing ordinary black ski gloves. Wouldn’t it be cool, they thought, if you could put a trail map or another colorful skin over your gloves instead?

Mr. Bright, an emergency room doctor in Golden, Colo., thought he had a good idea for a business, but he had no idea what to do next. “Most of my colleagues and friends are doctors or in the medical field,” he said. “I didn’t even know where to start with regards to getting help.”

So instead, he turned to ChatGPT, which was gaining widespread attention. He initially used the technology to answer basic questions such as how to use a particular kind of dye for the glove skins, eventually asking the tool to handle more complicated tasks including coming up with a survey for customer feedback, translating patent documents into understandable terms and deciphering legal agreements for trade shows.

While the company is not yet profitable, Mr. Bright said using ChatGPT gave him the confidence he needed to start Skittenz, without having to pay lawyers or other experts. “It’s scary when you’re taking your savings and putting it into a new idea when you have no footing,” he said. “But to be able to harness the whole power of the internet into a bit of a conversation gives you some reassurance.”

Little data exists at this point on how many start-ups are using A.I., and whether the technology is helping them to get more quickly on the path to hiring and, ideally, profitability. That is partly because the intersection of entrepreneurial activity and generative A.I. has only

recently emerged as an area of study for economists.

But research suggests that newer businesses are, at a minimum, more inclined to experiment with the technology.

According to a working paper published in April by the National Bureau of Economic Research, A.I. use was higher among young firms. Applications like generative A.I. may be attractive to young and small firms, the paper’s authors wrote, because they are “general-purpose technologies” that are not expensive to use.

And Gusto, a small-business payroll and benefits platform, found that roughly a fifth of businesses created last year said they were using generative A.I. to more efficiently carry out tasks including market research, contract reviews, bookkeeping and job postings. Liz Wilke, principal economist at Gusto, thinks use could transform the start-up landscape.

“There is every reason to believe that that is the likely path — that businesses are going to get to profitability faster and they will get to scale faster and that they will actually be a little more stable in the end,” she said.

Jamie Steven, an entrepreneur in Greenvater, Wash., seems to be on this track.

Mr. Steven used generative A.I. to learn about some of the basics of running a business when he was trying to start an application last summer that would show users the quality and conditions of their internet connection in an easy-to-interpret interface. He asked ChatGPT questions on topics including equity in start-ups and payroll. Although the technology would sometimes produce suspect or nonsensical answers to the point where he adopted a mantra, “Don’t trust and verify,” its ability to provide succinct summaries helped him feel more informed before he spoke to experts.

“I feel like I can ask the stupid questions of the chat tool without being embarrassed,” said Mr. Steven, who previously held senior positions at Ookla, which runs the popular sites Speedtest and Dnswat, a move that he said was instrumental in building the business faster. He

He and his engineers have also used GitHub’s Copilot to help them more quickly write code for the app, called Orb.net, a move that he said was instrumental in building the business faster. He

has recently hired several people, raised \$700,000 from angel investors and aims to introduce the app publicly in the next several months.

“Would I have been able to have done that had I not had access to those tools?” Mr. Steven said. “Probably not.”

One piece of the start-up landscape that is showing signs of more measurable change because of artificial intelligence is a boom in A.I.-related new business. Investors are pouring billions of dollars into A.I. start-ups, and some research has shown that businesses originating from A.I.-related new-business applications over the years had greater potential than others for job creation, payroll and revenue.

But many entrepreneurs are also using artificial intelligence to help turn their ideas into viable business concepts. Erik Noyes, an entrepreneurship professor at Babson College in Massachusetts, said the technology, in effect, gives start-up founders the opportunity to multiply their intelligence cheaply.

“Entrepreneurs never have enough resources,” he said. “You could look at this as a bootstrapping technology — do more with less.”

E. Darren Liddell spent years working in nonprofit financial coaching, helping lower-income people make good financial decisions. He had always wanted to start a business and finally did last summer, creating My Money Story, a financial coaching company for people of color with lower incomes.

One of the company’s programs pairs up users to help each other meet financial goals. In the beginning, users were matched manually. But about six months ago, Mr. Liddell, who lives in Brooklyn, became curious about using artificial intelligence to make the pairings, which he and his small team would then review before making them final.

Though there were some privacy issues to iron out involving how the A.I. technology would incorporate user information, the idea was a success, Mr. Liddell said. Above all, the tool saved the company time, and meant it did not have to hire an intern or entry-level employee to do the matching.

“We’re a start-up, so our money is quite lean,” he said, “and every dollar really counts.”