

Using Generative AI for Small Business & Economic Development

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Agenda

- ▶ **Recap - 2023-24 presentations**
 - ▶ What are Generative Artificial Intelligence (Gen AI) tools
 - ▶ Caveats / Risks
 - ▶ Prompt engineering
- ▶ **GenAI and small businesses**
- ▶ **GenAI and uses for work**
- ▶ **Use for economic development**
- ▶ **Discussion**
- ▶ **Resources**

Gen AI

Generative AI can be thought of as a machine-learning model that is trained to create new data, rather than making a prediction about a specific dataset. A generative A.I. system is one that learns to generate more objects that look like the data it was trained on.

Zewe, Adam. (November 2023) Explained: Generative AI. *MIT News*.
<https://news.mit.edu/2023/explained-generative-ai-1109>

Books on Bias in the machines

Algorithms

- ▶ [Weapons of Math Destruction](#) by Cathy O'Neil
- ▶ [Algorithms of the Oppressed](#) by Safiya Noble

LLMs****

- ▶ *AI Unleashed: Navigating the Perils of Large Language Models* by Professor Michael Chen
- ▶ *Bias in the Machine: Understanding and Mitigating AI Discrimination* by Dr. Sarah Thompson
- ▶ *The Dark Side of AI: Unveiling the Risks of Large Language Models* by Dr. Raj Patel
- ▶ *The LLM Dilemma: Ethics and Risks in AI Language Models* by Dr. Emily Harper

**** *All hallucinations*

Caveats / Risks

Bias / misinformation

- ▶ Many LLMs trained mostly on information on the open web
- ▶ Amplification

Hostile takeover (a tool finds away to manipulate outcome)

Privacy ([article](#)) and Copyright

Lack of transparency (tools are black boxes)

Environmental impact ([town](#))

Jobs and Education

Novice v. Expert

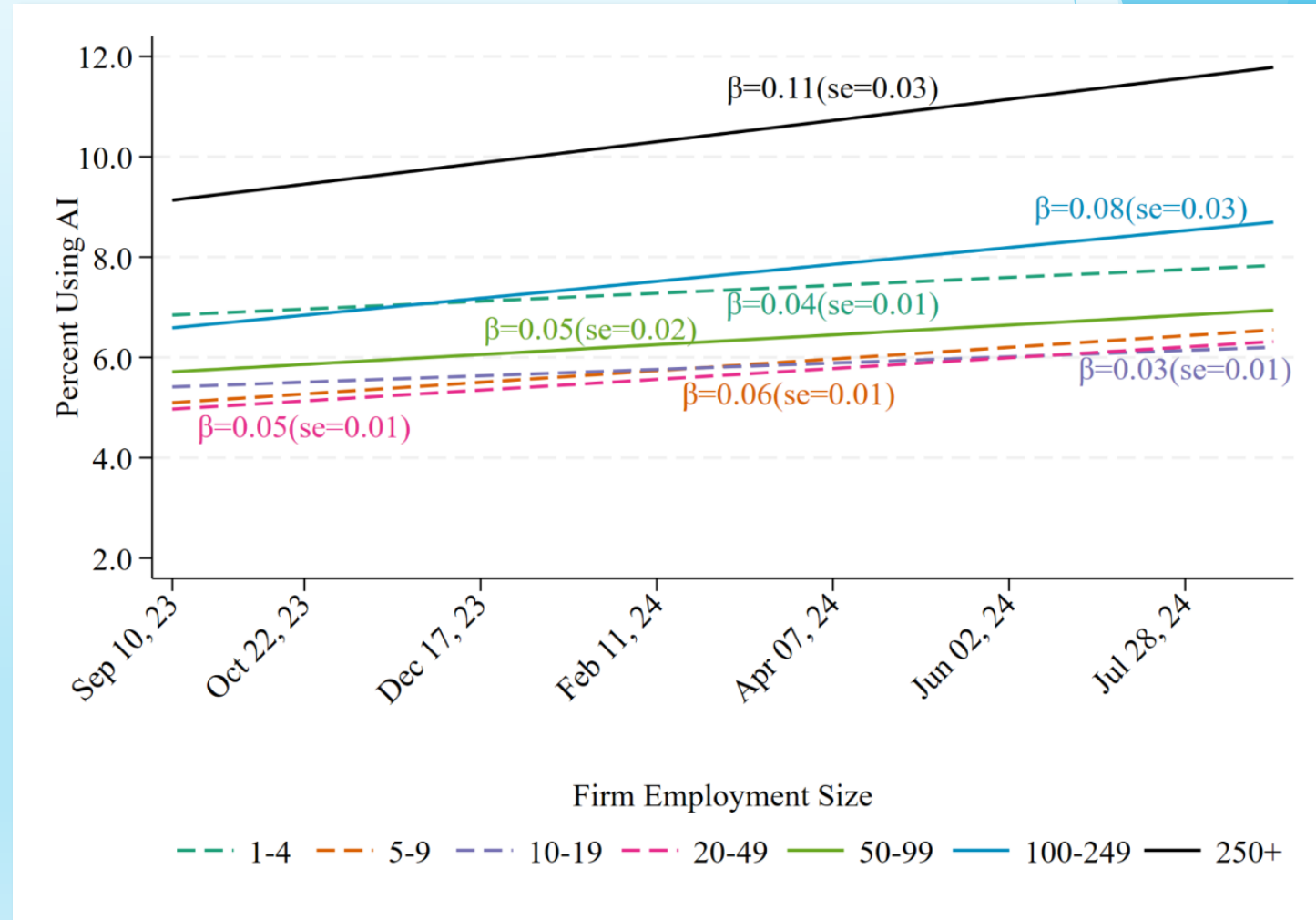
A.I. bots

Leverage GenAI for Small Businesses

- ▶ **Inputs**
 - ▶ What to share (and NOT share (e.g., PII)) /ask
 - ▶ Use as a reference (experts ask reference questions)
 - ▶ Jargon into “regular” English?
 - ▶ Limit embarrassments (ask tools stupid questions)
- ▶ **Enterprise or Controlled Platforms**
 - ▶ Business creates internal control
- ▶ **Training**
 - ▶ Part of work
- ▶ **Policies**
 - ▶ Create, review, update
 - ▶ *Check industry associations for policy guidance*

Small Businesses and GenAI

- ▶ Adopting faster than other advanced tech ([Census](#))

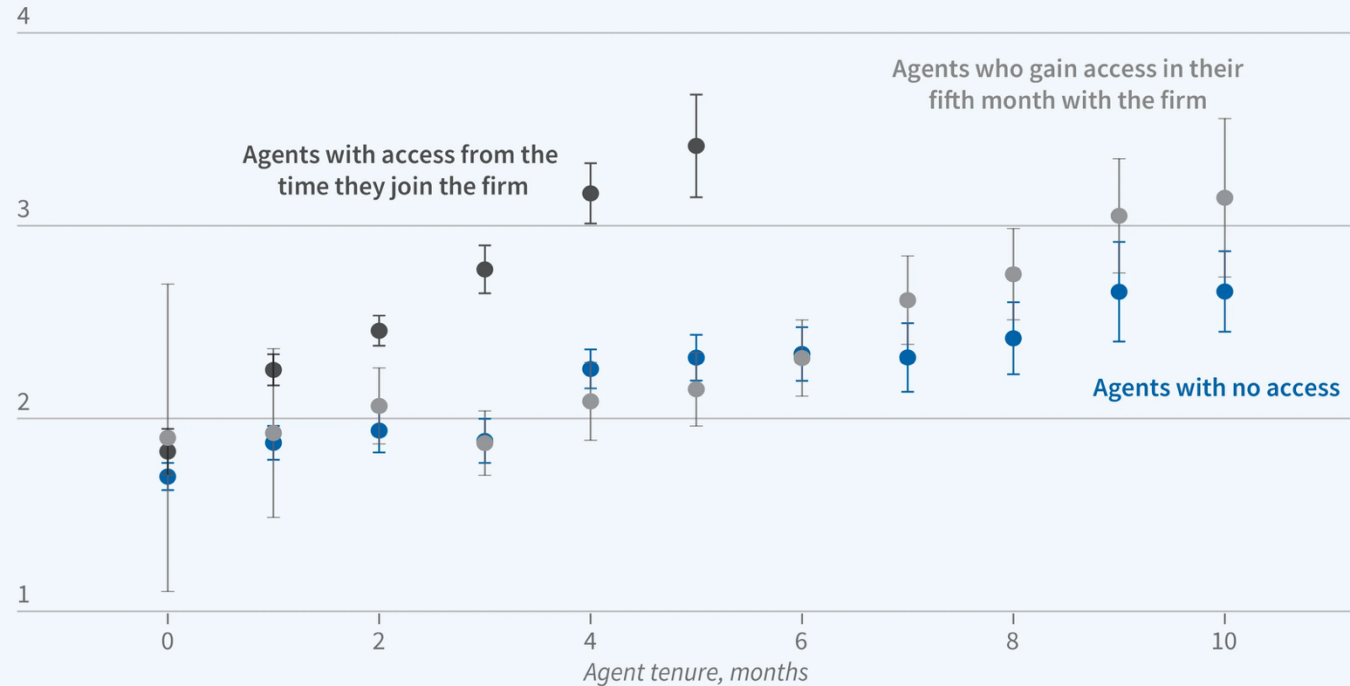


Small Businesses and GenAI

- ▶ Supporting entry and middle level employees ([NBER](#) research)

Productivity of Customer Support Agents and AI Support

Resolutions per hour



Bars represent 95% confidence intervals.

Source: Erik Brynjolfsson, Danielle Li, and Lindsey R. Raymond. NBER Working Paper 31161.

Prompt engineering (dead?) v. Zero-shot

If you want to become better at using A.I.:

- ▶ Focus on writing clearly and precisely.
- ▶ Learn to break down your needs and explain them simply.
- ▶ Develop a habit of critical thinking—ask good questions and **verify** A.I. outputs.
- ▶ Practice creative problem-solving by collaborating *with* A.I., not just commanding it.

*From Mazen Lahham, April 28, 2025

Uses in the workplace*

- ▶ Mine structured metadata (data.gov)
- ▶ Build specialized models to ease common tasks on experts
- ▶ Specialized tools by industry*
- ▶ Organize content
- ▶ Create structured content
- ▶ Notetaking / auto-transcription* (too much paperwork)
- ▶ Creative arts / a muse
- ▶ Marketing ideas
- ▶ Office work
- ▶ Weed through documents / literature / deciphering legal
- ▶ Call centers
- ▶ Writing - first draft

“AI is saving time at the edges, not redefining how their businesses run.” - Kochkodin

*<https://www.nytimes.com/interactive/2025/08/11/upshot/ai-jobs.html>

Gen A.I. and Econ Development Examples

Using ChatGPT and Co-Pilot (enterprise options) and Claude.ai (free)

- ▶ Data.gov
- ▶ Find data sources
- ▶ Create report
- ▶ A.I. prompts
- ▶ Caveats /verify

Sources

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