AI Adoption in the Public Sector
Outcomes From a Nationwide Survey

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This Study

Motivation:

- **2 out of 3** respondents in the private sector report the use of GenAI at work (McKinsey, 2024; Microsoft and LinkedIn, 2024).
- **Three-quarters** of executives predict that GenAI will lead to disruptive changes in their industries (McKinsey, 2024)
- Adoption of AI in the public sector is gaining momentum
⇒ **What is the status quo in the public sector?**
⇒ **What are the trends and bottlenecks of GenAI adoption?**

This study:

- Surveys employees of school districts, special districts, higher education institutions, and state and local governments across the United States.
- So far, received 1,000+ responses across 12 states.
- More states will be surveyed by end of 2024. Recruiting ongoing.

Survey Design

- Survey contains **43 questions** and is conducted online.
- **Scope:** Focuses on Generative AI ("GenAI") and covers:
  1. Current GenAI use patterns (adoption, frequency, tool use)
  2. Expected future use
  3. Perceived productivity & quality impact
  4. Functional and regulatory limitations
  5. Risk, negative outcomes and risk mitigation measures
  6. Investment and training.
- **Key questions:**
  - Do you use AI for work tasks?
  - How do you expect AI to impact your job in the next 5 years?
  - What do you think are the greatest risks of AI?
- Some questions cover background topics:
  - Employment status (employer, job function, years of service, income, private sector experience, collective bargaining agreement)
  - Demographic / socioeconomic characteristics (age, education, race, sex)

Roadmap

Overall AI Adoption for Work Tasks
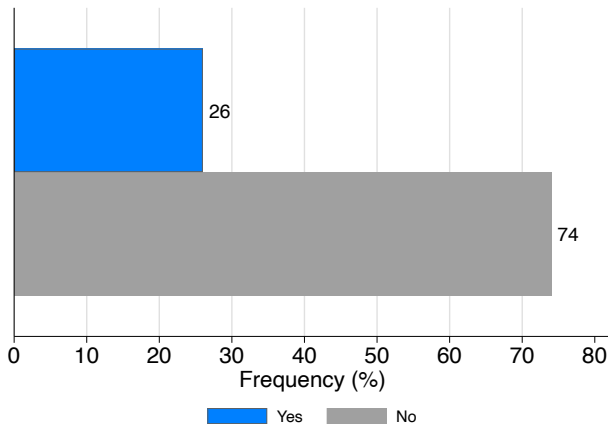
$\Rightarrow$ 25.6% indicate the use of GenAI for work tasks

$\Rightarrow$ 16.5% use AI for work at least once a week. $\Rightarrow$ 1/6 people use GenAI regularly in the public sector

AI use by Job Function

Higher education staff — 71
Higher education faculty — 60
Procurement — 44
Parks & recreation — 43
Administrator — 37
Tech support — 34
Municipal / County staff — 33
Community development — 31
Health services worker — 27
Finance or budget office — 27
Elected official / support staff — 27
Scientist / Analyst — 25
Public defender or prosecutor — 20
Other — 19
Transportation — 14
Public works — 14
Judge or judicial staff — 13
Case / Social worker — 9
Corrections officer — 6
Law enforcement — 4
Facilities / Property mgmt. — 0

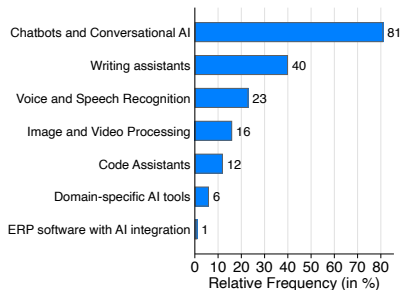0 20 40 60 80
AI Use (in %)

$\Rightarrow$ Higher education faculty and staff report the highest usage of GenAI

$\Rightarrow$ Followed by procurement, parks & recreation, and administrators.

$\Rightarrow$ Social workers, corrections officers, law enforcement, and facilities report lowest use
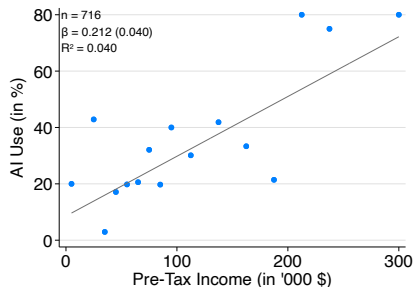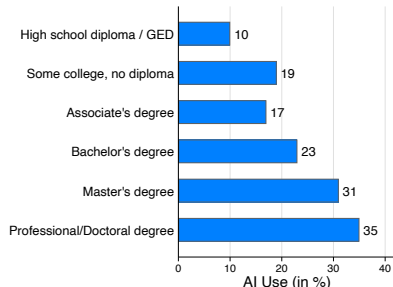
Frequency and Tool Use
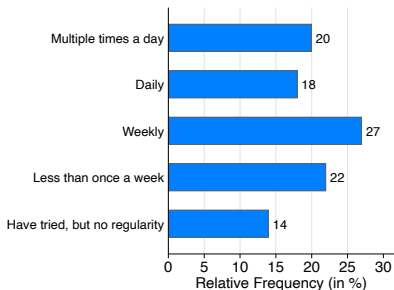
(a) Frequency

(b) Tool Use

$\Rightarrow$ 67% of all adopters use GenAI tools at least once a week
$\Rightarrow$ Use is heavily concentrated in chat bots and conversational AI.
   Writing assistants are the most used domain specific tool.
$\Rightarrow$ Other domain specific tools and ERP integration picking up slowly

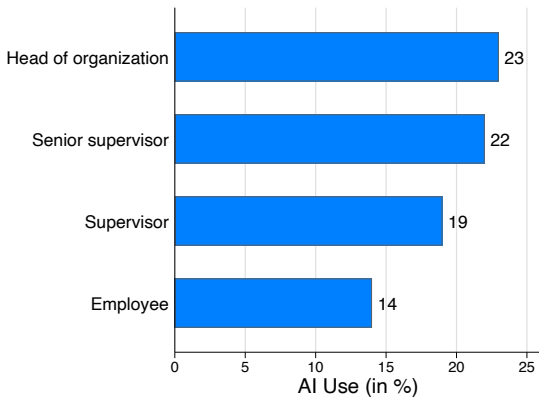# Income and Educational Attainment

(a) By Pre-Tax Income

(b) By Education

$\Rightarrow$ Strong positive association of AI use and pre-tax income
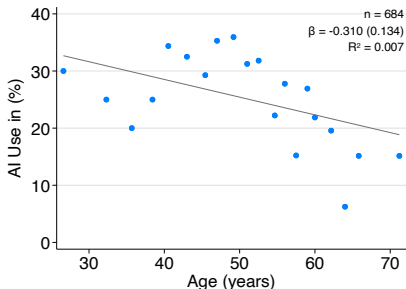
$\Rightarrow$ Positive gradient for educational attainment
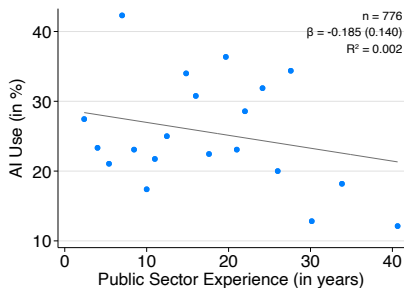
Rank in Organization

$\Rightarrow$ Highest adoption of AI among the most senior employees within the organization
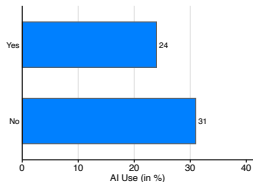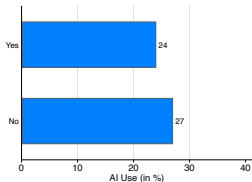
Years of Service and Age

(a) By Age

(b) By Years of Service

$\Rightarrow$ Overall negative age gradient but really inverse U relationship. Highest adoption among employees in their 40s

$\Rightarrow$ Weaker and noisy relationship between AI adoption and years of public sector service
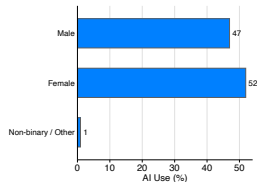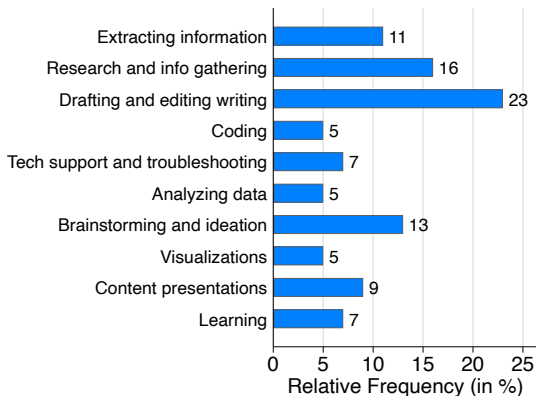
Other Heterogeneities

(a) Private Sector Exp.

(b) Coverage by
Collective Bargaining

(c) By Sex

$\Rightarrow$ Limited heterogeneity with respect to other factors

AI Applications by Category

⇒ Writing assistance is the most popular GenAI application

⇒ Followed by research and brainstorming / ideation

AI Applications – Common Tasks

1. **Writing and improving emails** – drafting, rewriting, and refining email content, ensuring clarity, tone, and professionalism.
2. **Writing job descriptions** – Creating applicant-centric job descriptions
3. **Correcting grammar and tone in writing** – Reviewing and improving the grammar, tone, and flow of letters, performance evaluations, and proposals.
4. **Drafting reports** – create first drafts of reports, summaries, and presentations based on input data.
5. **Drafting contracts and legal documents** – Tasks such as writing scopes of work, contracts, or drafting policy and procedural documents.
6. **Performing research tasks** – Finding information related to accounting topics, technical documentation, or research papers.
7. **Preparing presentations** – Drafting content for webinars, PowerPoints, and educational training materials.
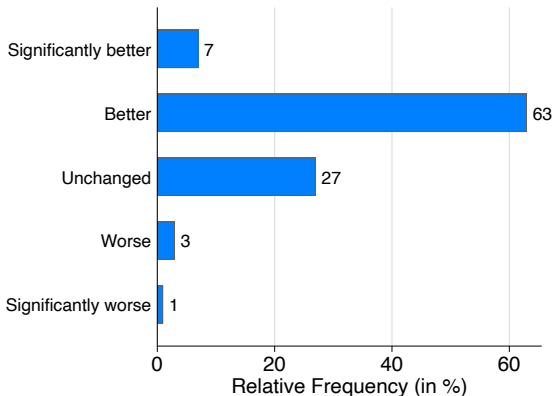
Roadmap

1 Current AI Use

2 AI Work Impact

3 Future AI Use

4 Risks and Mitigation

5 Investment and Training

6 Conclusion

AI Use and Productivity
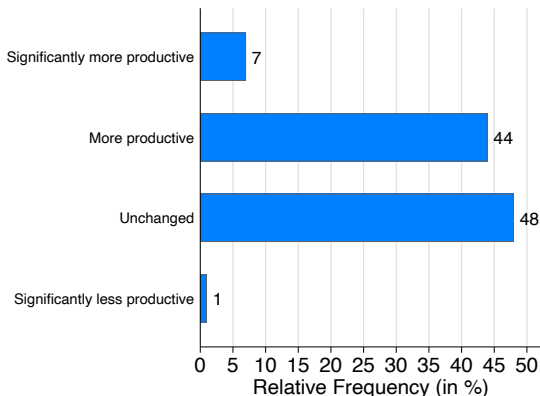
⇒ 6.9% feel significantly more productive (2+ hours reduction in time per day)

⇒ 43.6% feel more productive (0-2 hours reduction in time per day)

AI Use and Quality

⇒ 69.5% say that GenAI improves their quality in comparison to non AI-assisted work
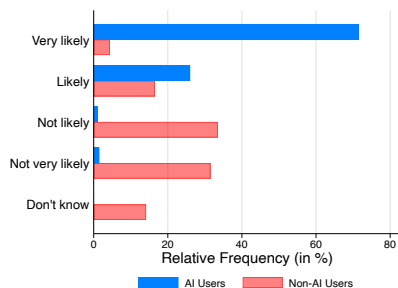⇒ 26.7% of the respondents did not notice any change on the quality of their work output

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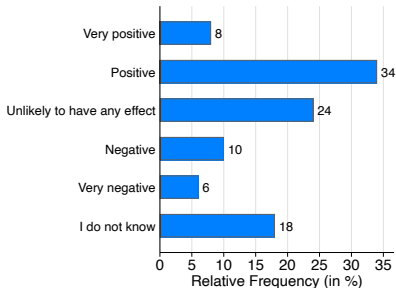# Future AI Use - One Year from Now
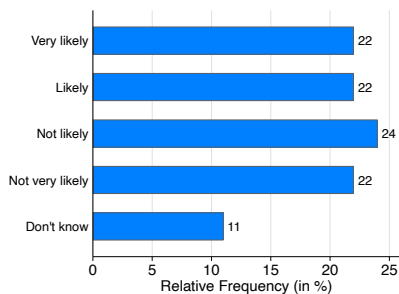
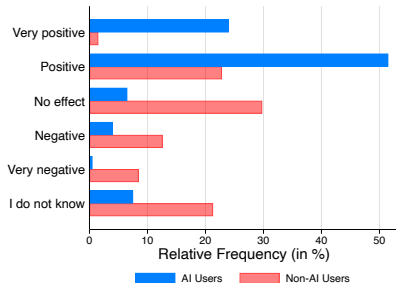(d) AI Use One Year From Now

(e) Adopter vs Non-Adopters

⇒ AI adoption is likely to grow within the next year

⇒ Once adopted, employees are likely or very likely to use GenAI one year from now (benefits outweigh the cost?)

AI Prospects

Question: How do you expect AI to impact your job in the next 5 years?

(a) Overall

(b) Adopters vs Non-Adopters

⇒ 41% expressed positive sentiment about the impact of AI on their job, 24% do not expect an effect, and 16% have negative outlook

⇒ Among adopters, more than 75% have a positive outlook, while there is a lot of uncertainty among non-adopters

AI Prospects
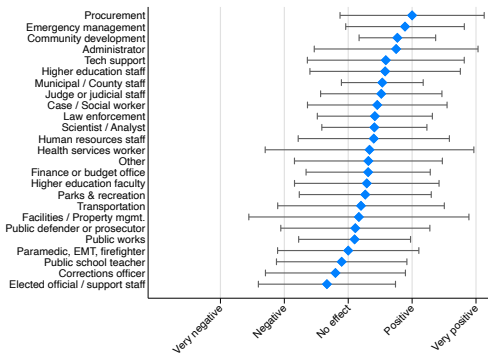
$\Rightarrow$ Sentiment is strongly correlated with the AI adoption by job function

$\Rightarrow$ Exception: higher education faculty hold more mixed sentiment

$\Rightarrow$ Elected officials / support staff are most pessimistic

Future Requested AI Capabilities

1. **Data pipeline** – Automate data collection, data input, and monitoring work in real-time
2. **Cyber security** – Improve cyber security systems.
3. **Contract review and drafting approval letters** – Reviewing contracts, drafting memos, and writing approval letters.
4. **Indexing legal cases** - Categorize cases involving similar issues to improve research and knowledge sharing
5. **Fact-checking and verifying sources** – Verify references in works cited, provide reliable citations, and fact-check information.
6. **Customer service automation** – Answer phones, respond to common questions, and schedule appointments with clients.
7. **Sourcing bids** - Sourcing bids for services, drafting scopes of work, and reconciling budgets.
8. **Creating GIS maps** – Generate GIS information from text inputs.
9. **Creating cross-examination questions** – summarize legal testimony and generate cross-examination questions

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AI Risks and Negative Outcomes
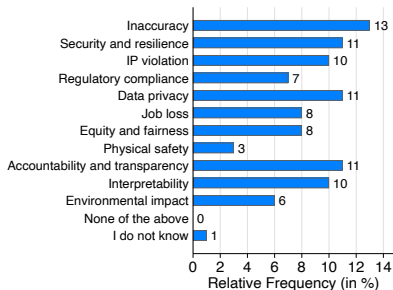
(a) Perceived Risks
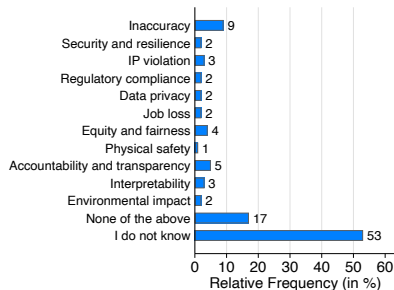
(b) Negative Outcomes

⇒ Perceived risks of AI are widespread

⇒ Inaccuracy is biggest concern. Security, data privacy and accountability tie for second

⇒ Awareness / realization of negative outcomes is limited

Risk Mitigation Policies
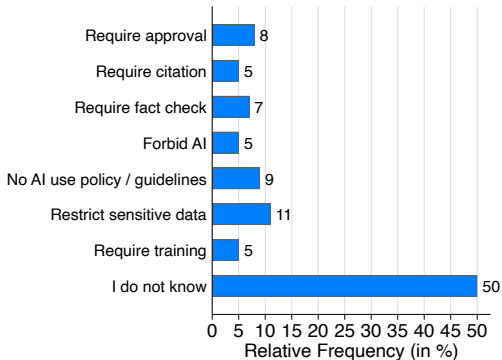
- 51% do not know or are not aware of risk mitigation policies within their organization
- 9% say that there is no AI use policy.
⇒ Policy and/or policy awareness is generally low
⇒ Only marginally different among AI adopters

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AI Investment

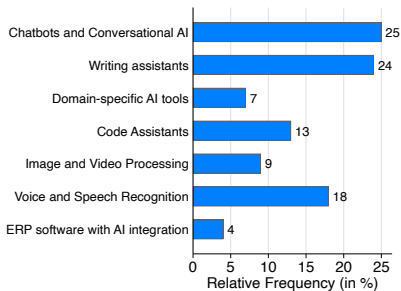

(a) Planned AI Investment
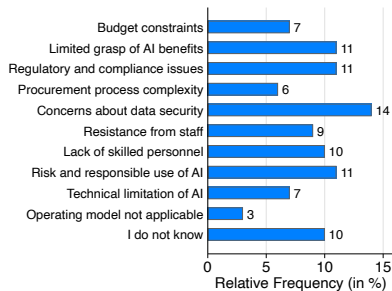
(b) Challenges for AI Investments

⇒ AI investment plans broadly follow adoption pattern.
   Disproportionate interest in voice and speech recognition.

⇒ Data security concerns, compliance and responsible use are
   largest impediments to investments.

Recruiting Impact
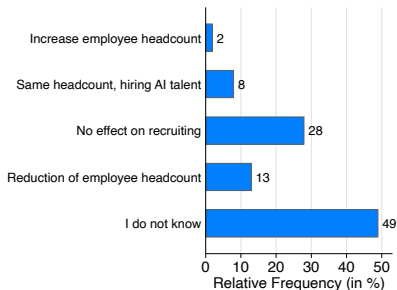
$\Rightarrow$ Tremendous uncertainty about labor market impact
$\Rightarrow$ 28% indicate that there is no impact on recruiting.
$\Rightarrow$ Consistent with the regional Business Survey of the New York Federal Reserve among businesses (Abel et al., 2024) $\Rightarrow$ plans to retrain current employees

Training and Training Effectiveness
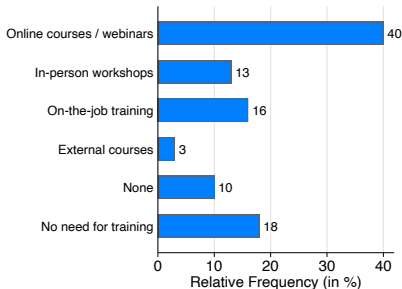
(a) AI training received?
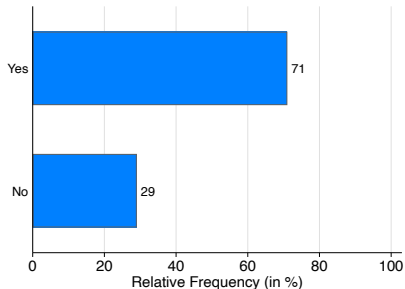
(b) Is it effective?

⇒ Substantial effort to provide training / resources ongoing

⇒ Majority signals that training is indeed effective

Interest in AI Training if not received yet

$\Rightarrow$ 49% signal interest in AI training (of those that have not received training)

Conclusion

- **1/4** have adopted Gen AI, **1/6** use GenAI regularly ("power users")
- **Large heterogeneities** in adoption behavior: Highly educated, high income earners, senior employees leading the adoption. Employees in their 40ties among early adopters
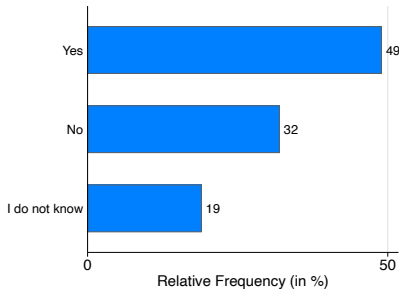- **Chat bots** and **writing assistants** are dominant, enterprise systems and specialized only sporadically used
- Overall, **positive outlook** of the prospects of AI on jobs, especially among current adopters.
- Perceived risks of AI are widespread but negative outcomes rarely experienced, **risk mitigation policies have to catch up**
- **Training is underway**, but interest in training outmatches current supply
- **Labor market impact** still **unclear**; currently re-skilling seems most likely scenario

Participate in the Survey!

https://forms.gle/FypugcdB3YJRvi116

⇒ Get a status update about the **current adoption** and other aspects of AI in your organization.

References I

Abel, J. R., R. Deitz, N. Emanuel, and B. Hyman (2024). Ai and the labor market: Will firms hire, fire, or retrain? *Federal Reserve Bank of New York Liberty Street Economics, September 4, 2024,* *https://libertystreeteconomics.newyorkfed.org/2024/09/ai-and-the-labor-market-will-firms-hire-fire-or-retrain/*.

McKinsey (2024). The state of ai. https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai. Accessed: 2024-07-11.

Microsoft and LinkedIn (2024). Ai at work is here. now comes the hard part. Accessed: 2024-07-29.

Invitation Email

Hello,

We hope this message finds you well.

As AI continues to transform the landscape of public service, your unique perspective as a public sector professional is invaluable. We appreciate your participation in a brief yet impactful online survey, conducted by leading researchers at **Stanford University**, to explore how AI is being adopted in public sector workplaces like yours.

Your insights will help us understand the potential benefits, limitations, and risks of AI in your field, guiding future innovations and policies. Contribute to a study that could shape the future of AI in public service.

Why Participate?

- **Influence the Future:** Your feedback will inform important research that could drive meaningful change in the public sector.
- **Quick & Easy:** The survey is designed to be concise and respectful of your time.
- **Confidential & Voluntary:** Your responses are confidential, and your participation is voluntary.

To learn more about the study, you can visit: https://aiadoptionsurvey.stanford.edu.
.
Ready to share your thoughts? Click the link below to get started:

Participate in Survey

Thank you in advance for your time and valuable input. Together, we can help shape the role of AI in public service!

Best regards,
Stanford AI Adoption Study Team
Stanford University

Questions: If you have any questions, concerns or complaints about this research, its procedures, risks and benefits, contact the Protocol Director, Oliver Giesecke at 650-725-3416 or og25@stanford.edu.

Stanford University

Follow-Up Email

Hello,

This is a follow-up to our previous invitation to participate in the AI survey conducted by researchers at **Stanford University**. We would appreciate your input and time as this survey may provide important information about the potential benefits, limitations, and risks of AI in public service.

Please ignore this invitation if you have already participated. This is the last invitation to participate and there will be no additional follow-up.

If you want to learn more about the survey please visit: https://aiadoptionsurvey.stanford.edu.

Your participation is **voluntary** and **confidential**. If you choose to participate, please click the link below and complete our brief survey:

Participate in Survey

Thank you for your consideration and have a good day.

Best regards,
Stanford AI Adoption Study Team
Stanford University

Questions: If you have any questions, concerns or complaints about this research, its procedures, risks and benefits, contact the Protocol Director, Oliver Giesecke at 650-725-3416 or og25@stanford.edu.

Stanford University