Building AI Value from an Economist's Perspective

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Generative AI will be transformative and will require practice. This is a “General-Purpose Technology”

- This is not the robot apocalypse. It is a massive opportunity.
- Now is **the time to get moving**. Starting an implementation plan is table stakes because this technology is moving quickly. Others are already making strides.
- Of course, “**measure twice, cut once**”. It can be helpful to get some quick wins under your belt first.
- **Set up your workflows for success**. What assets do you have now?
- **Data, Talent, and Computation** will take you further now than they have in the past. Make these resources accessible for building new projects.
- Given wide-ranging exposure of knowledge work, **experimentation will be critical** in determining how successful generative AI projects will be.

General-Purpose Technology Criteria:

- Pervasive
    - Check: Do lots of occupations have exposure?
- Improves over time
    - Check: Developer activity, model improvements, we're going to take it for granted too
- Spawns complementary innovation
    - Check: Is occupational exposure also contingent on building with other systems?

The quick version of workforce impacts to expect from “GPTs are GPTs”

- Around 80 percent of workers have at least 10 percent of their tasks exposed
    - While workers in some tasks might immediately become more productive, much of the value is locked up: **additional tools and software unlock the value of AI**
    - Exposure is neither good nor bad! It means we can expect change.
- Exposure to generative AI is pervasive across industries and occupations
    - The types of work generative AI helps with typically relate to **information processing.**
    - Jobs probably aren’t the right unit of analysis. Consider **tasks** and **systems**.

Summary of exposure rubric

No exposure (E0) if:

- using the described LLM results in no or minimal reduction in the time required to complete the activity or task while maintaining equivalent quality[a] or
- using the described LLM results in a decrease in the quality of the activity/task output.

Direct exposure (E1) if:

- using the described LLM via ChatGPT or the OpenAI playground can decrease the time required to complete the DWA or task by at least half (50%).

LLM+ Exposed (E2) if:

- access to the described LLM alone would not reduce the time required to complete the activity/task by at least half, but
- additional software could be developed on top of the LLM that could reduce the time it takes to complete the specific activity/task with quality by at least half. Among these systems, we count access to image generation systems.[b]

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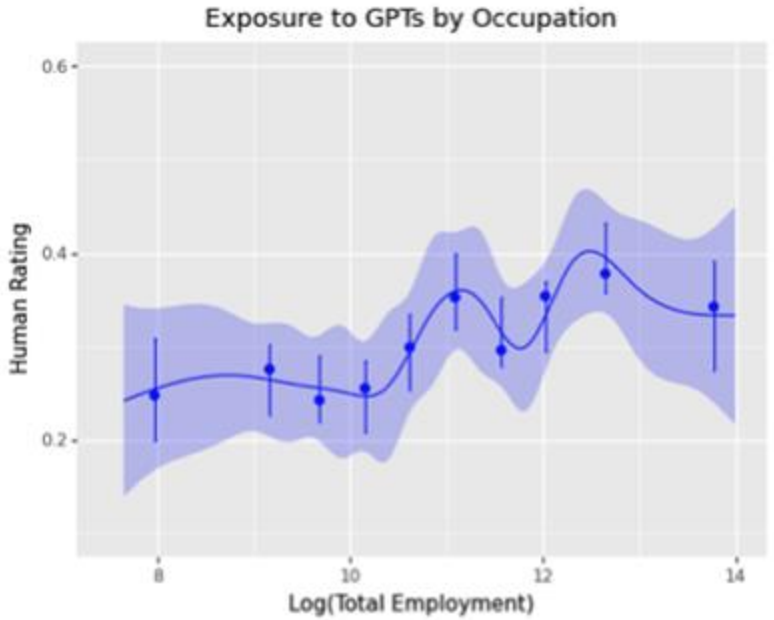
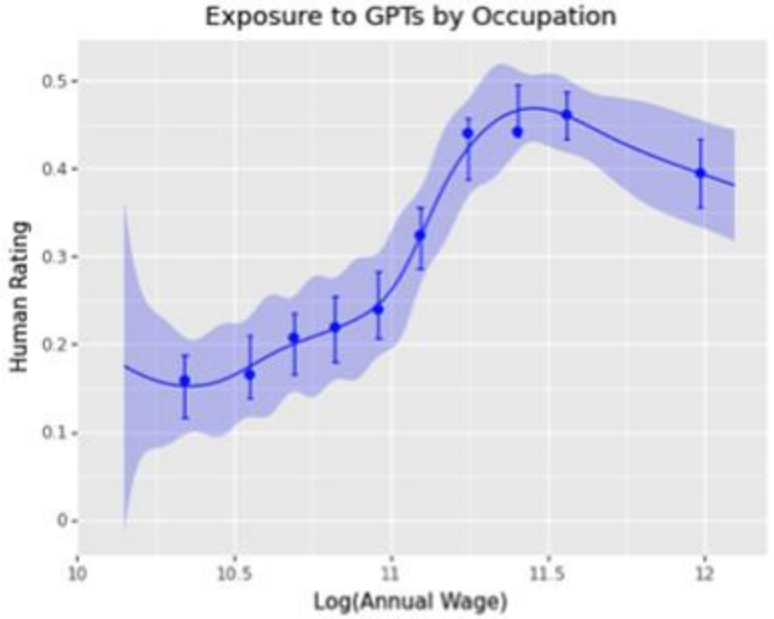
[a] Equivalent quality means that a third party, typically the recipient of the output, would not notice or care about LLM assistance.

[b] In practice, as can be seen in the full rubric in Appendix A.1, we categorize access to image capabilities separately (E3) to facilitate annotation, though we combine E2 and E3 for all analyses.

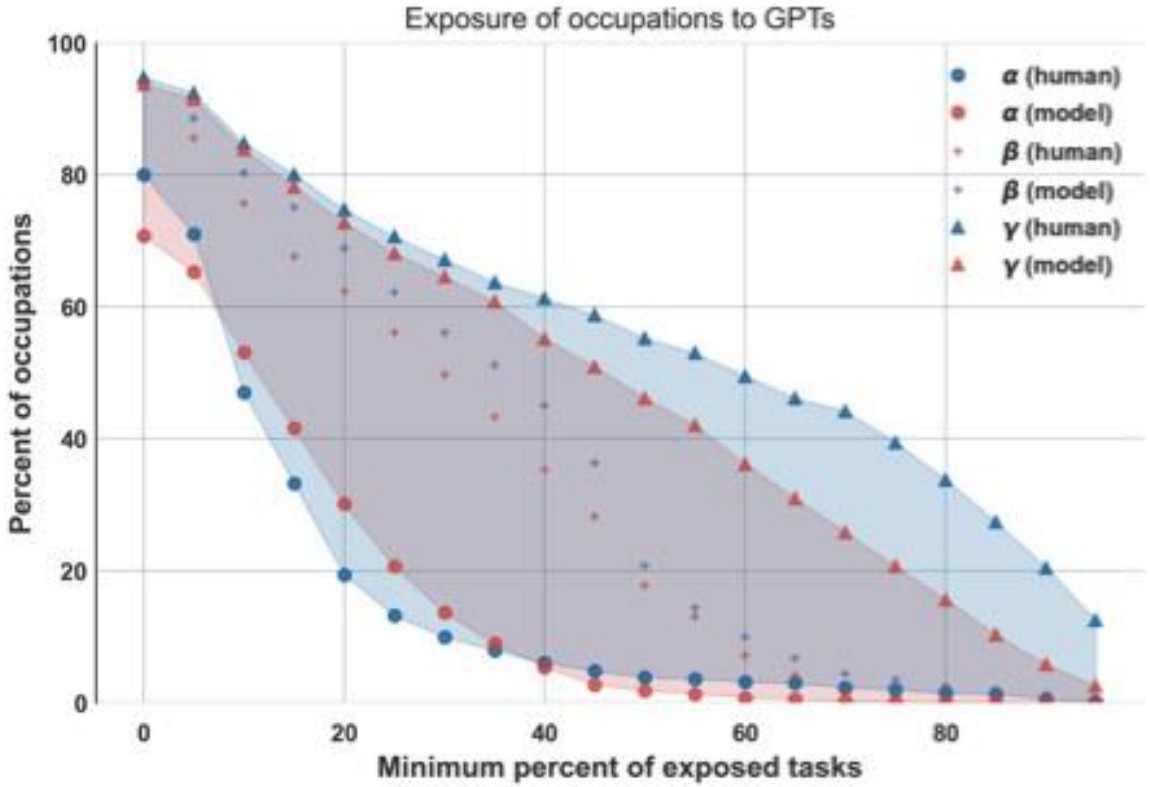

Exposure to GPTs by Occupation
Human Rating
0.6
0.4
0.2
8
10
12
14
Log(Total Employment)

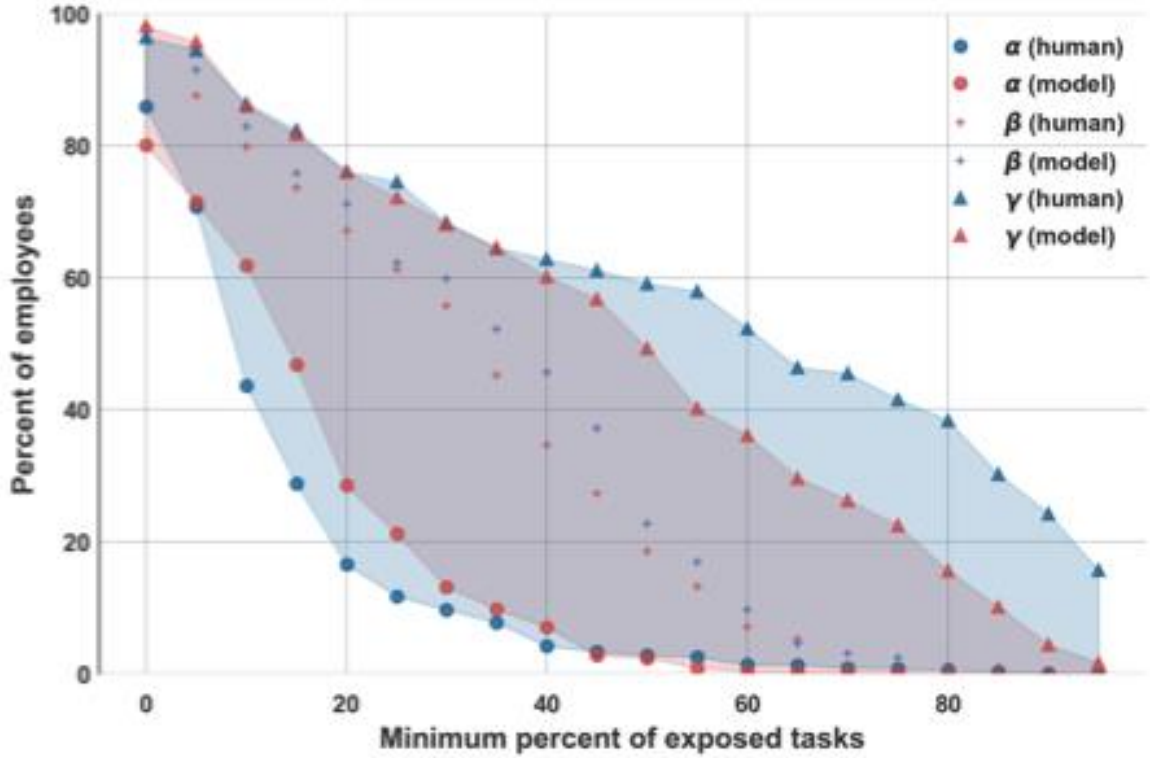

Exposure to GPTs by Occupation
GPT-4 Rating
0.6
0.4
0.2
8
10
12
14
Log(Total Employment)


Exposure to GPTs by Occupation
Human Rating
0.5
0.4
0.3
0.2
0.1
0
10
10.5
11
11.5
12
Log(Annual Wage)

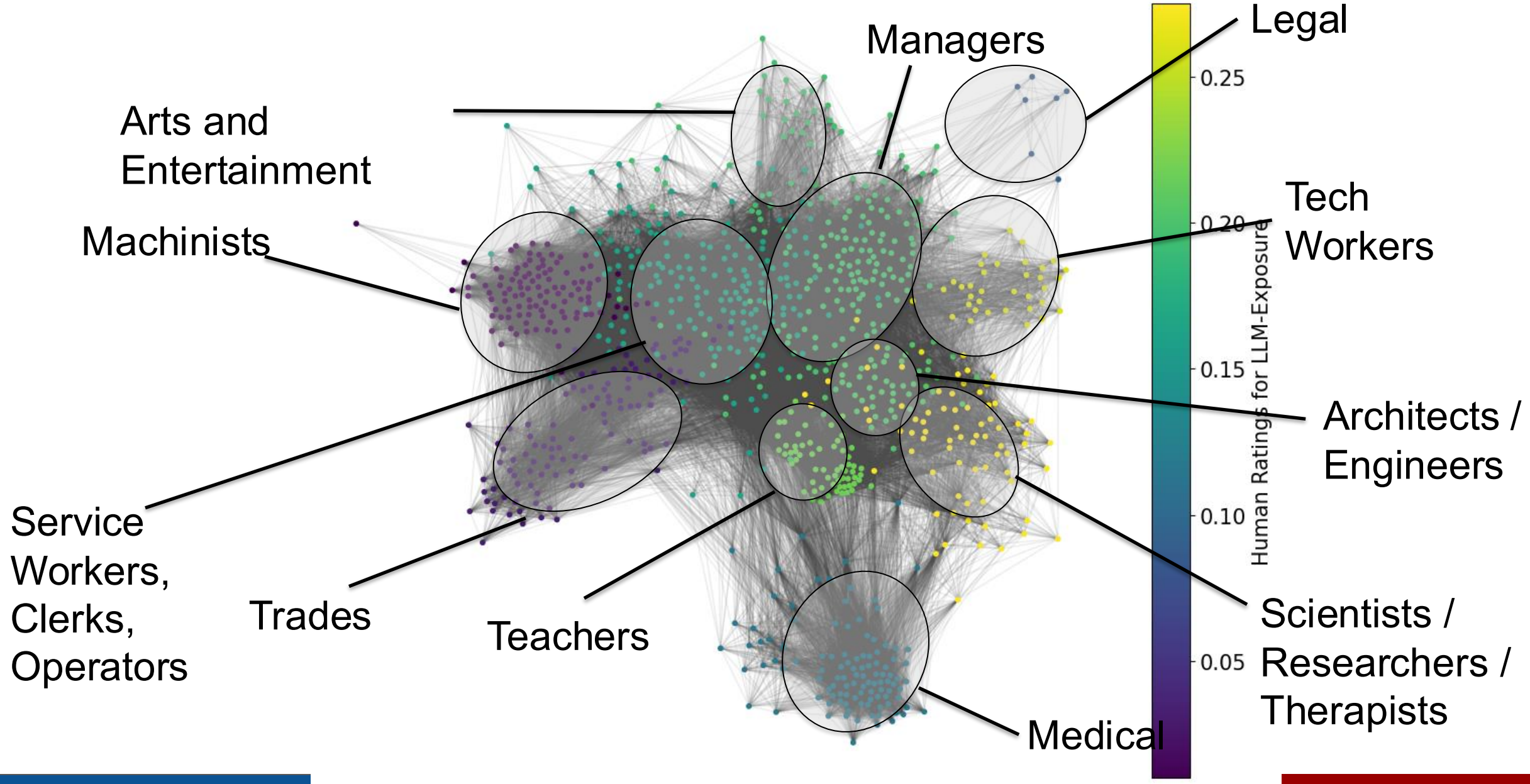

Exposure to GPTs by Occupation
GPT-4 Rating
0.6
0.4
0.2
0
10
10.5
11
11.5
12
Log(Annual Wage)

Unlocking AI potential means building innovative tools, software, and processes



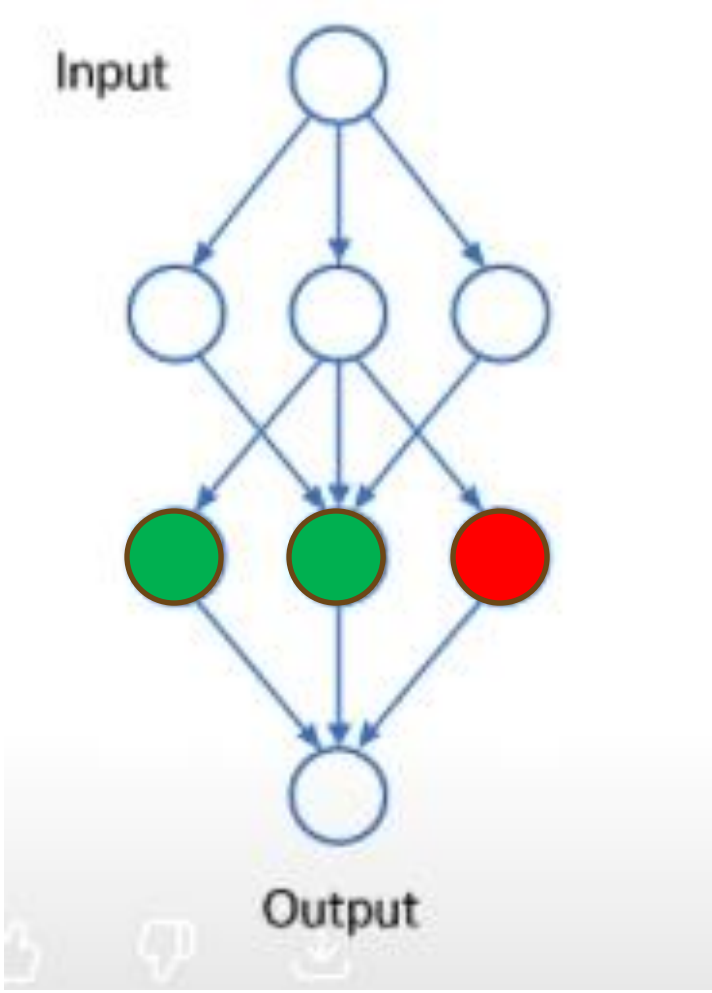


Researchers and developers rank amongst the most exposed groups

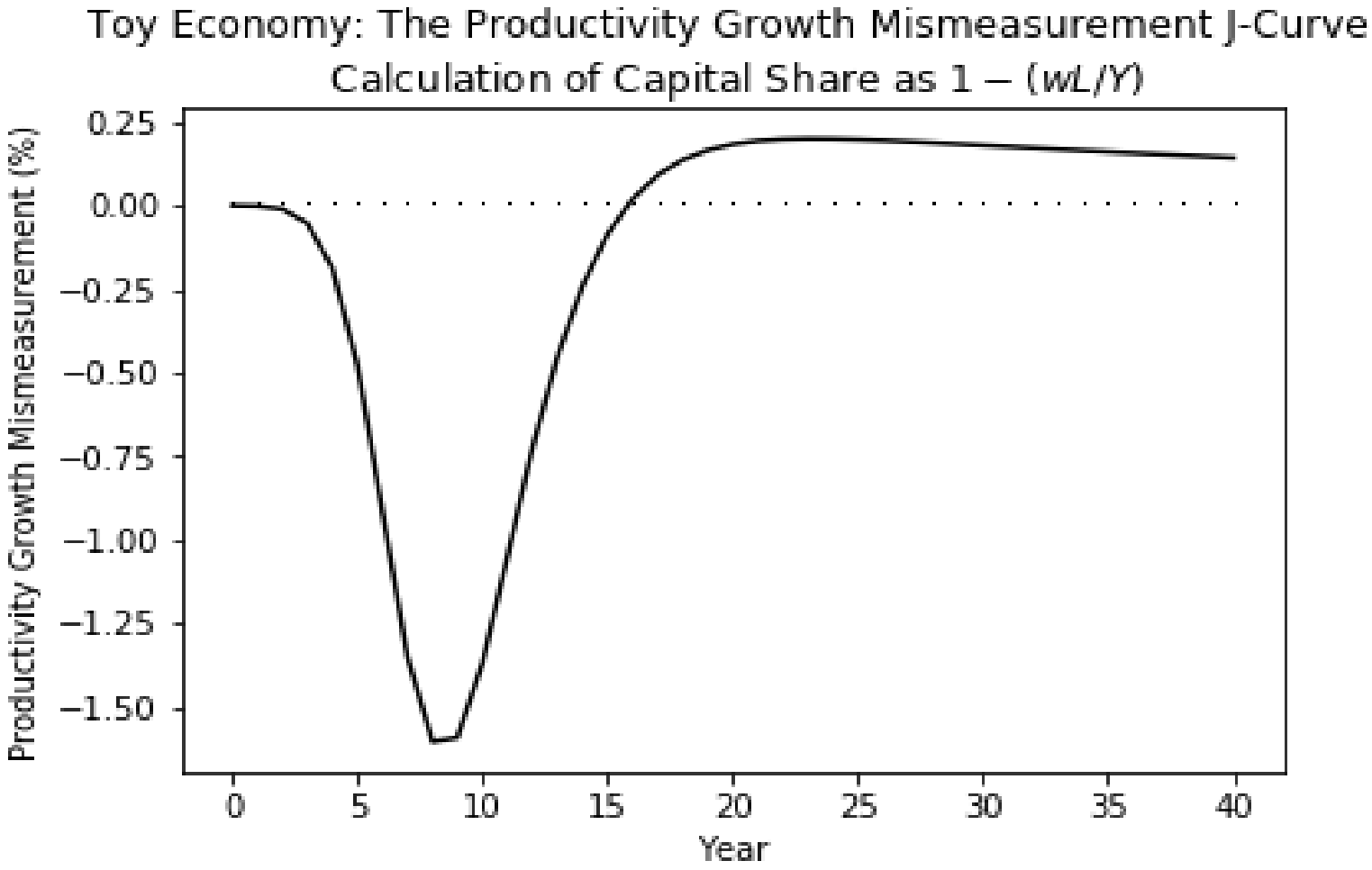


Firms need time to build new paths of production: The Path-Based Model for Transformation

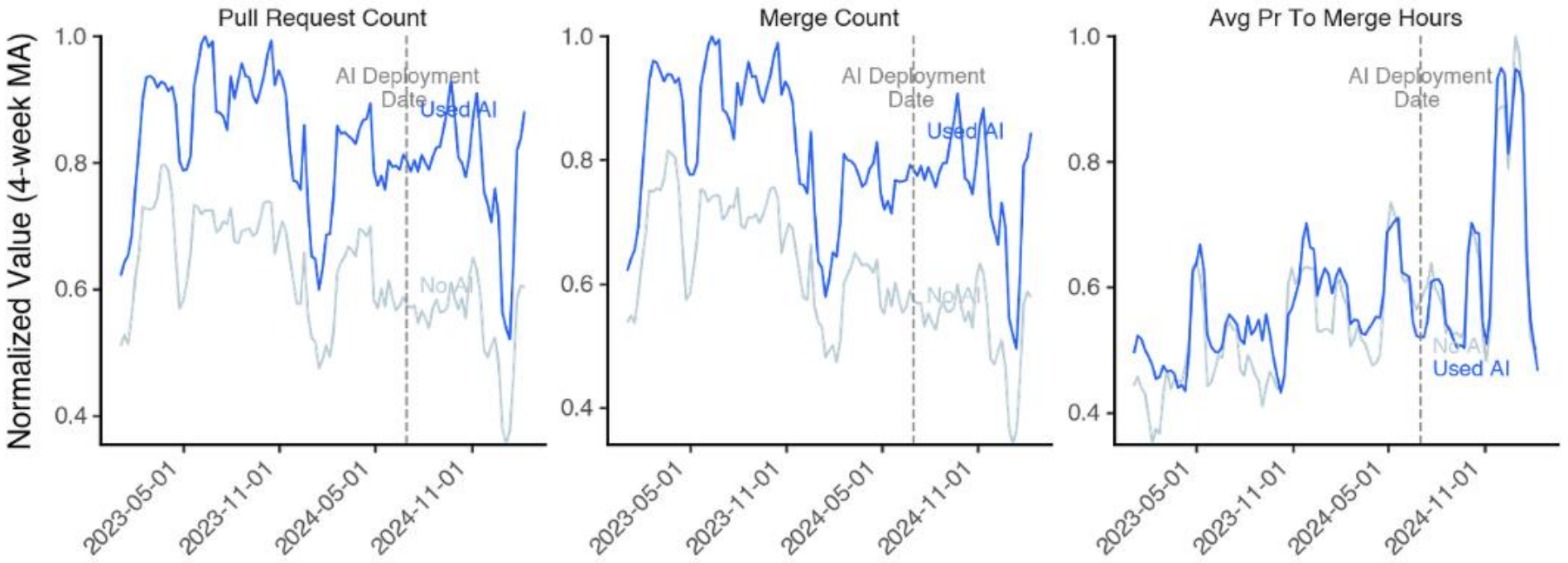
- Given prices and a level of output, firm picks the optimal path.
- (At least) Two ways of realizing AI value
  - “Node-wise”: Where can we use AI in our existing processes to improve efficiency?
    - Faster, but subject to bottlenecks
    - ”So-so automation” and “excessive automation”
  - “Path-wise”: reconfigure and build around new capabilities
    - Expensive and ROI is long-term



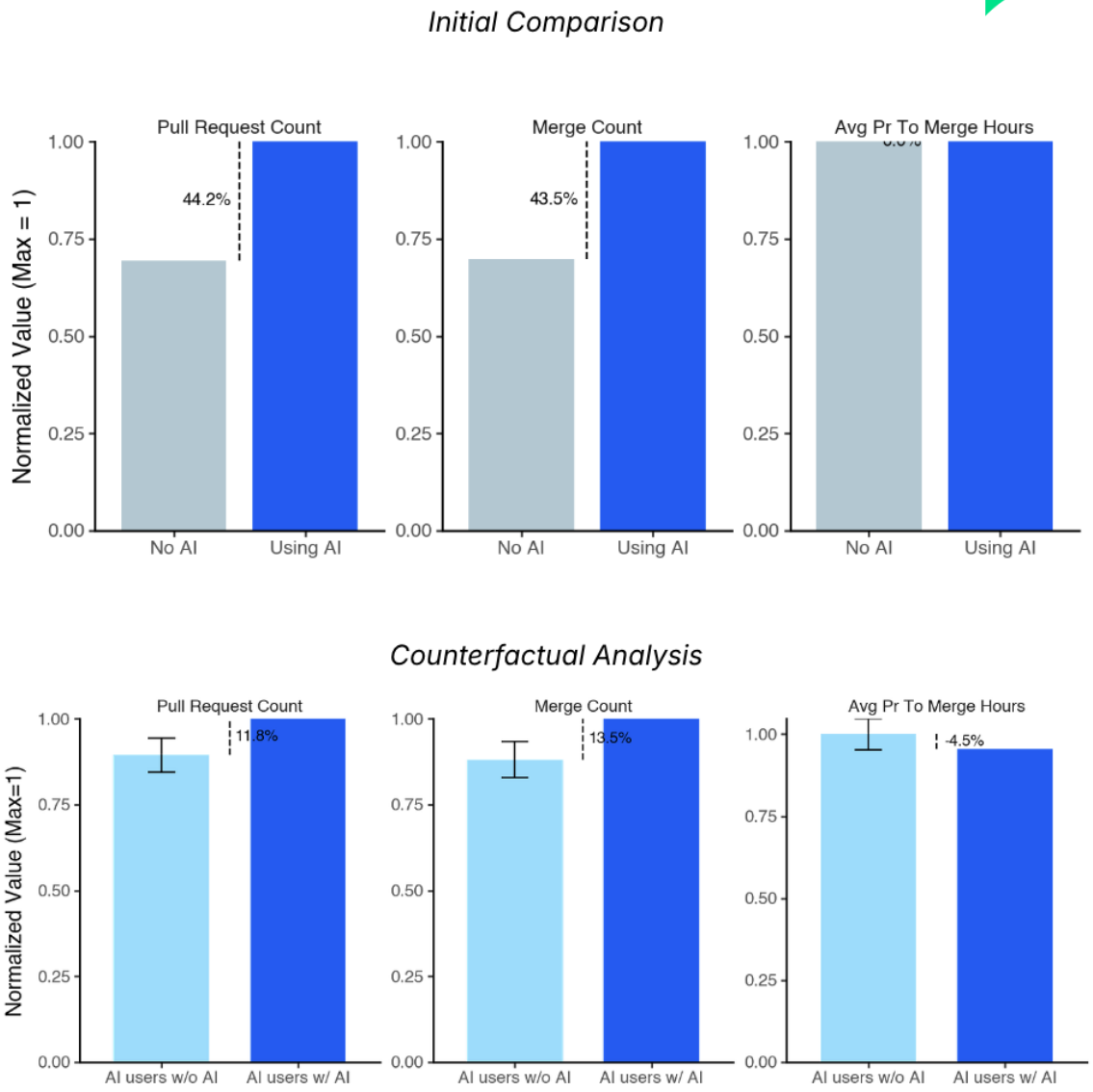
First we invest, and then we harvest. Workhelix was founded to speed up the J-curve.



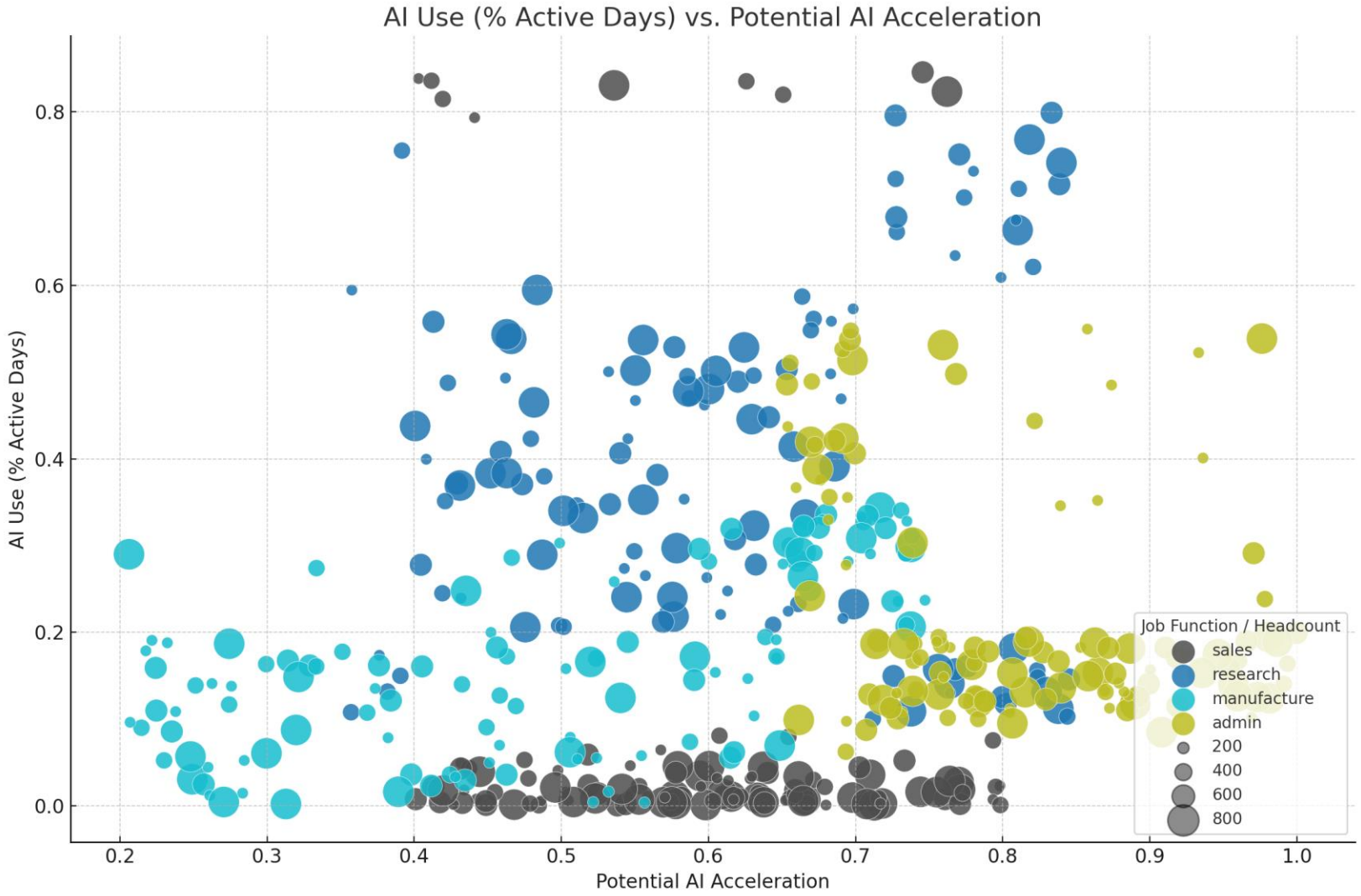
Where do we see the first steps forward?



Where’s the ROI?
Early causal effects early are meaningful, but not transformative



There are huge opportunities in learning from your teams



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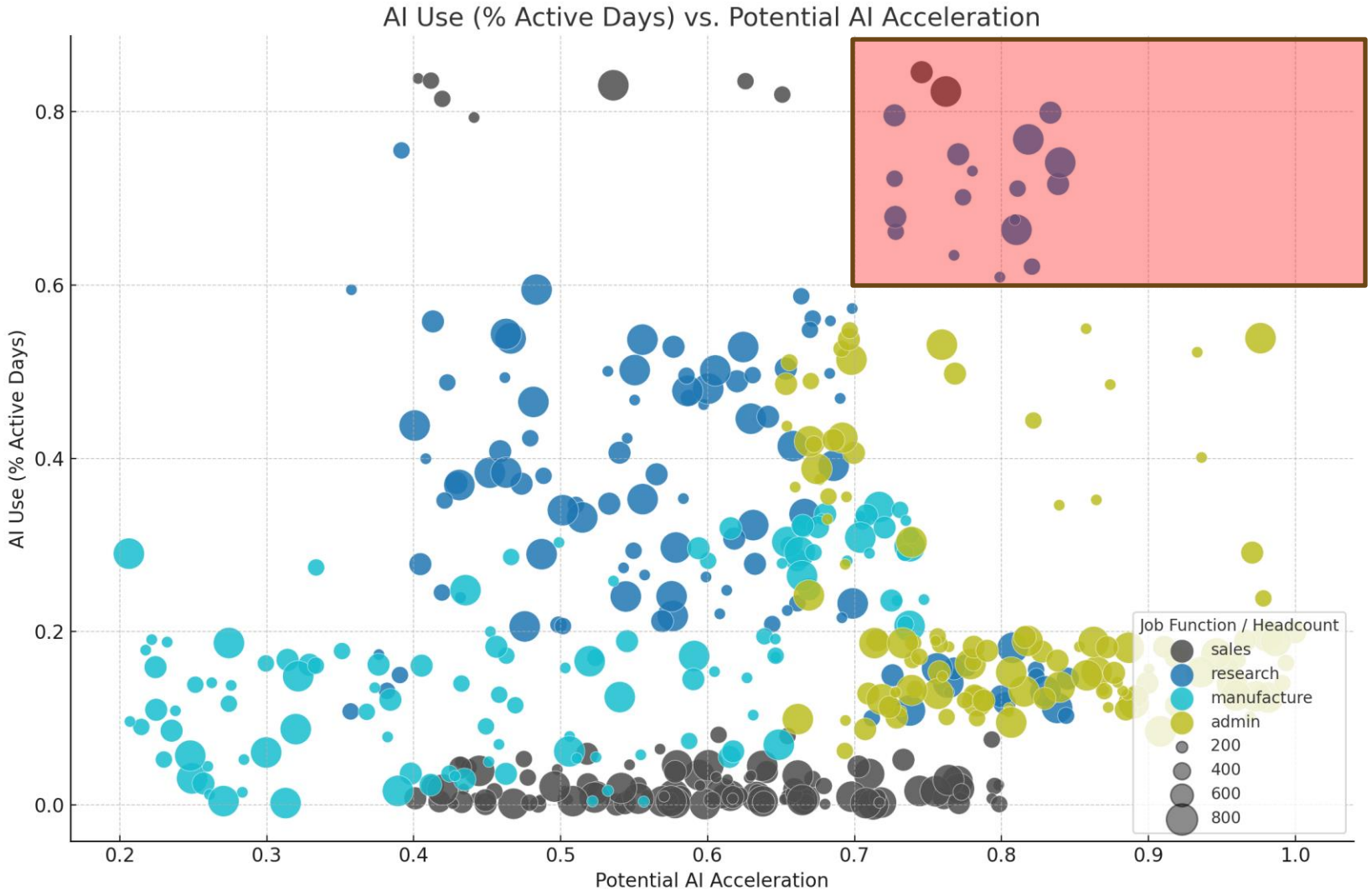

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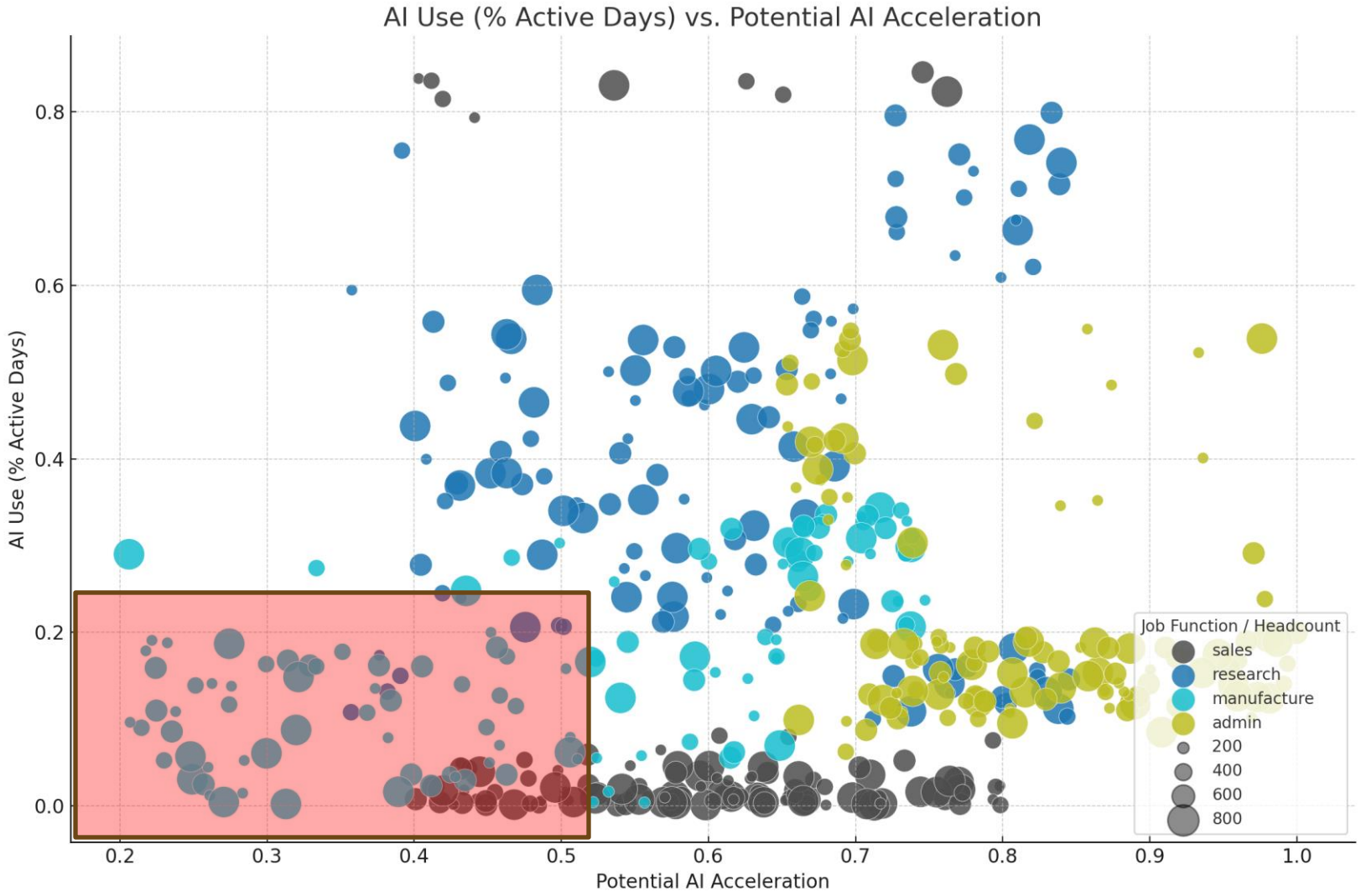

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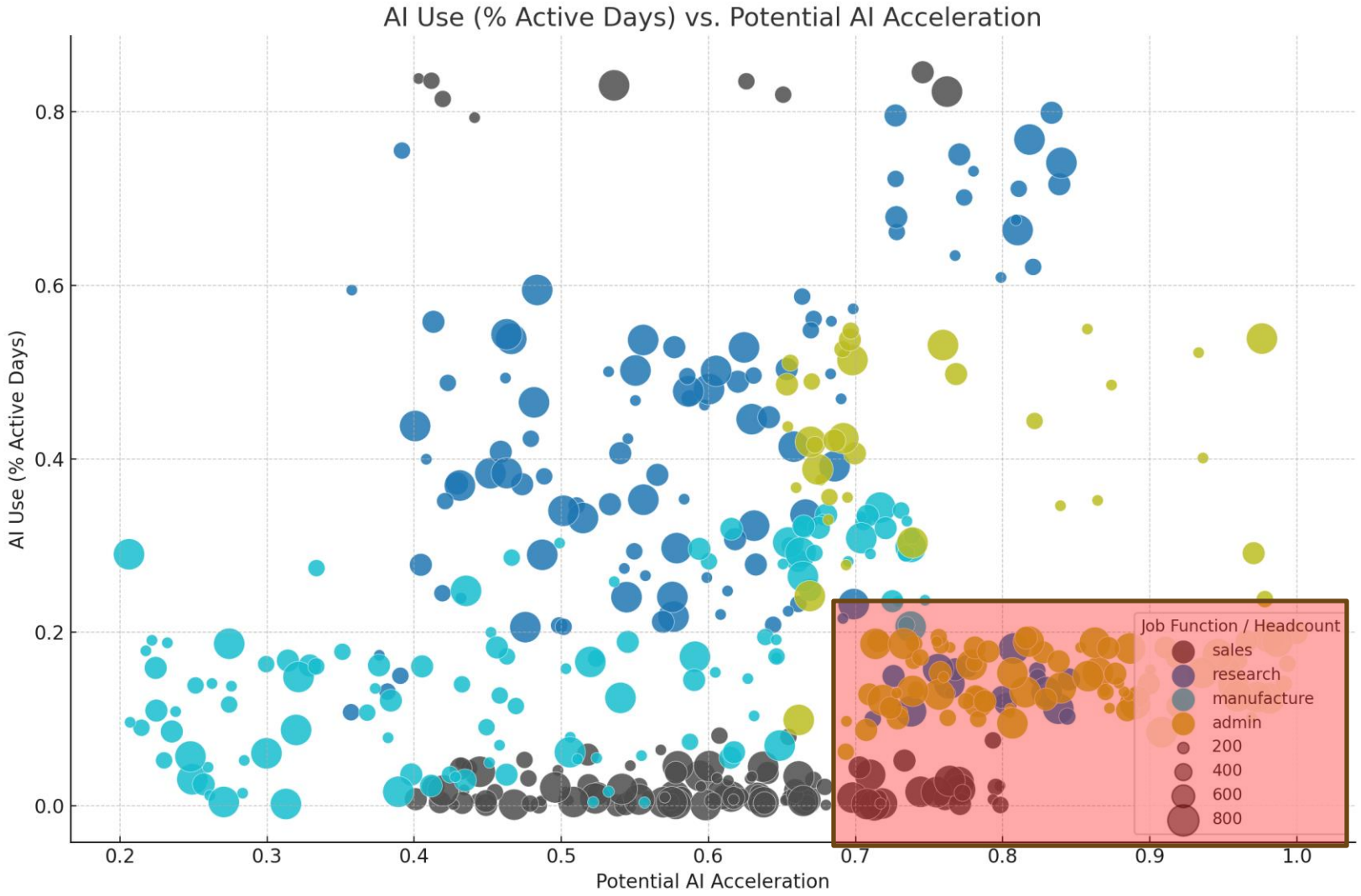
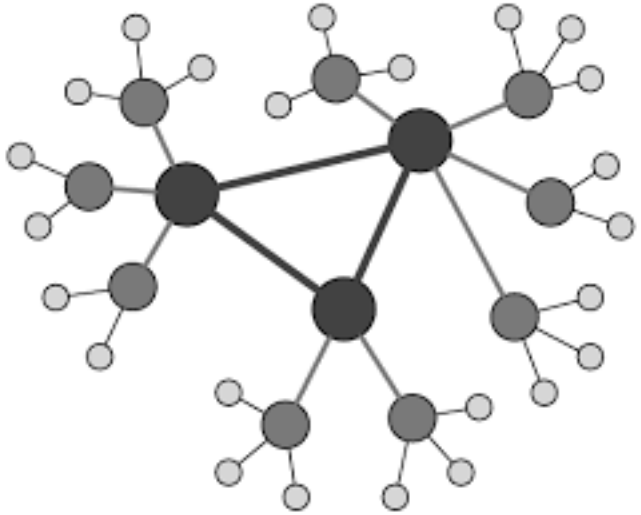
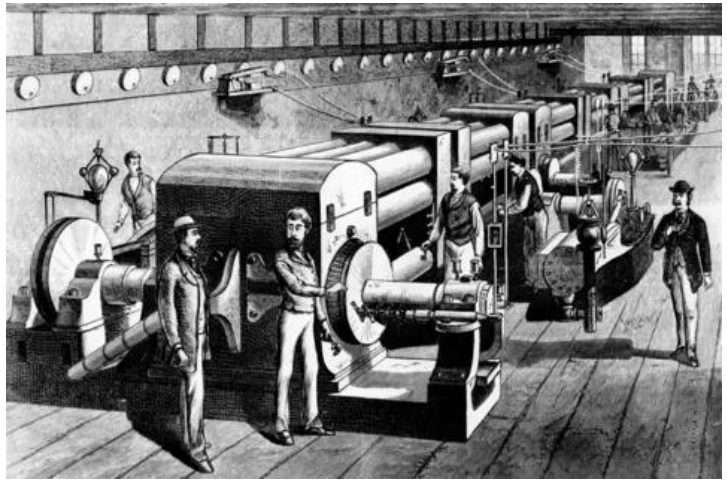
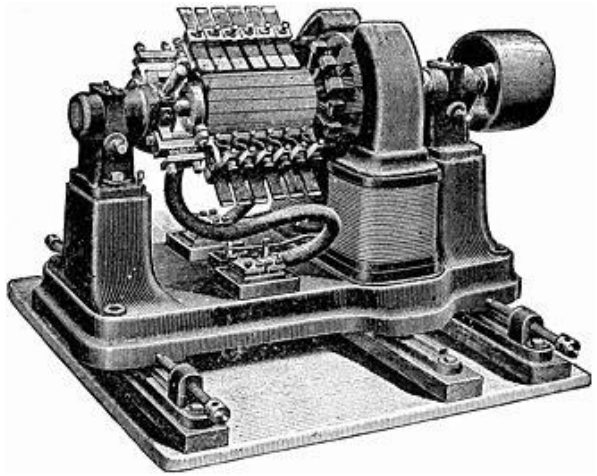


What does this transformation look like already?

- Technology function is often a central node in a hub-and-spoke setup
- What if we changed that?
- What if a competitor could change that?







Firms will need to explore new configurations (see Ide and Talamàs (2025)).

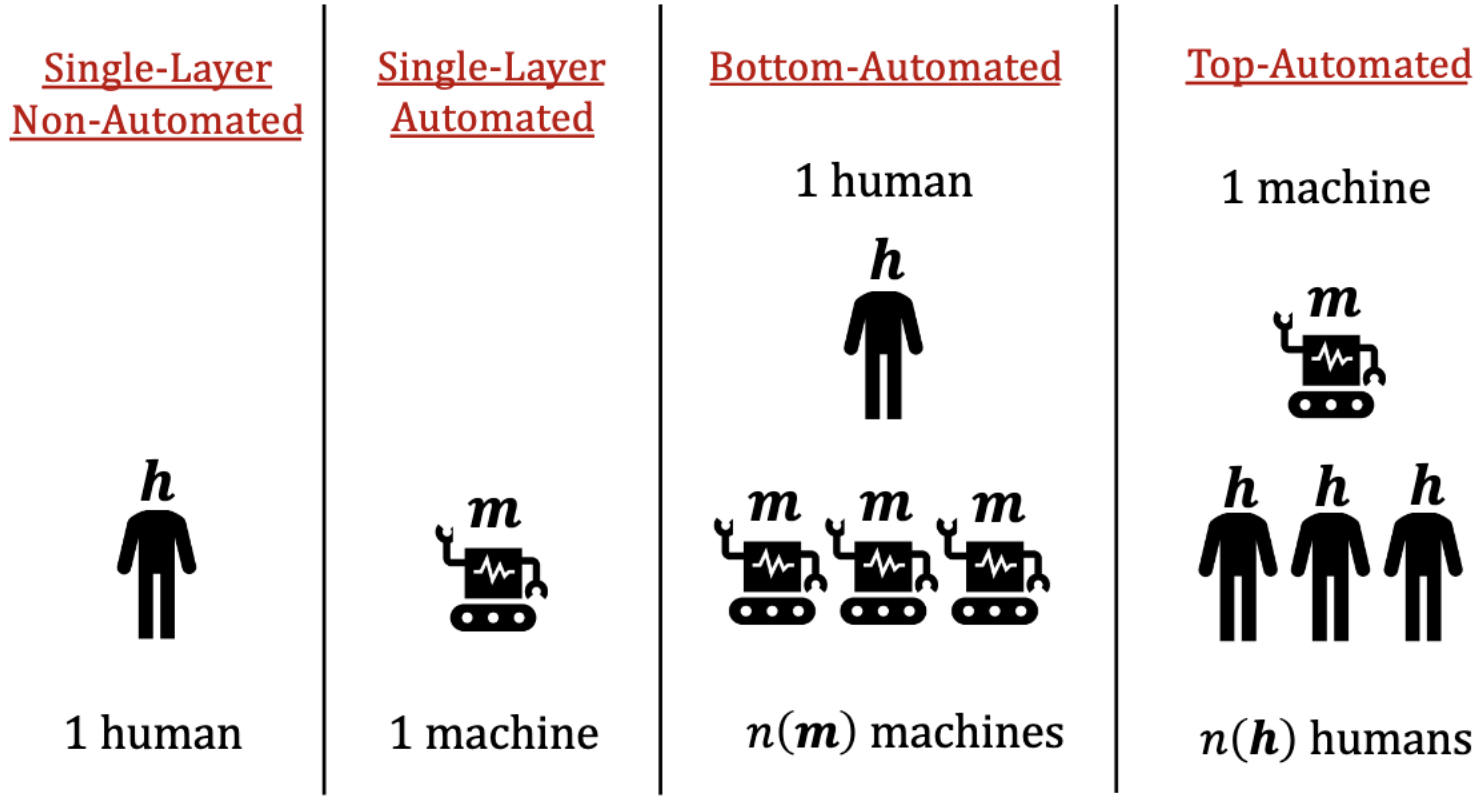
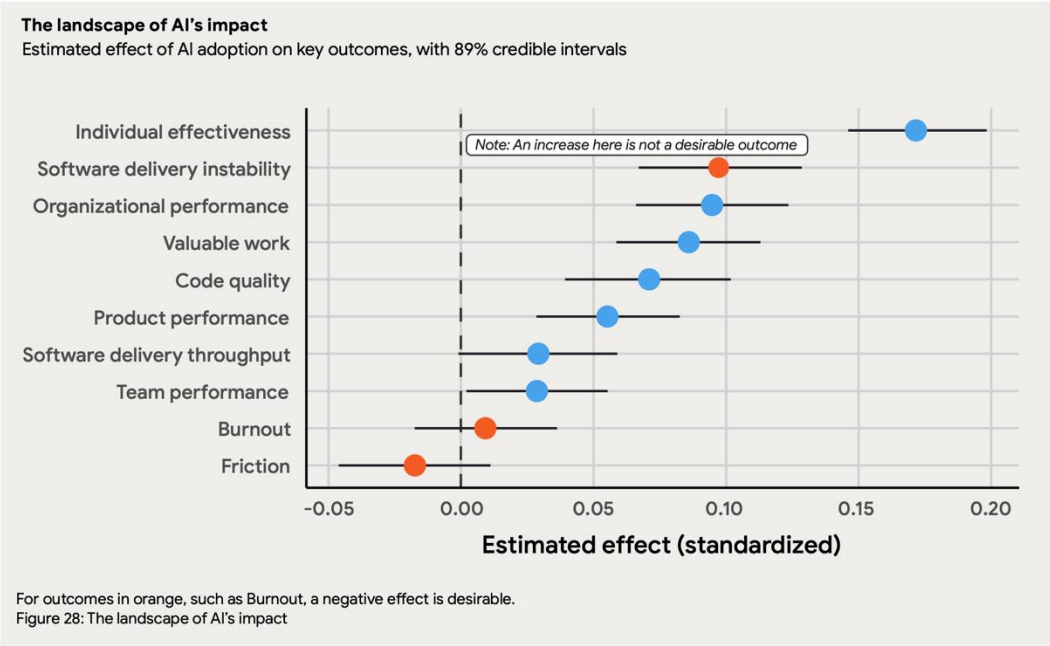


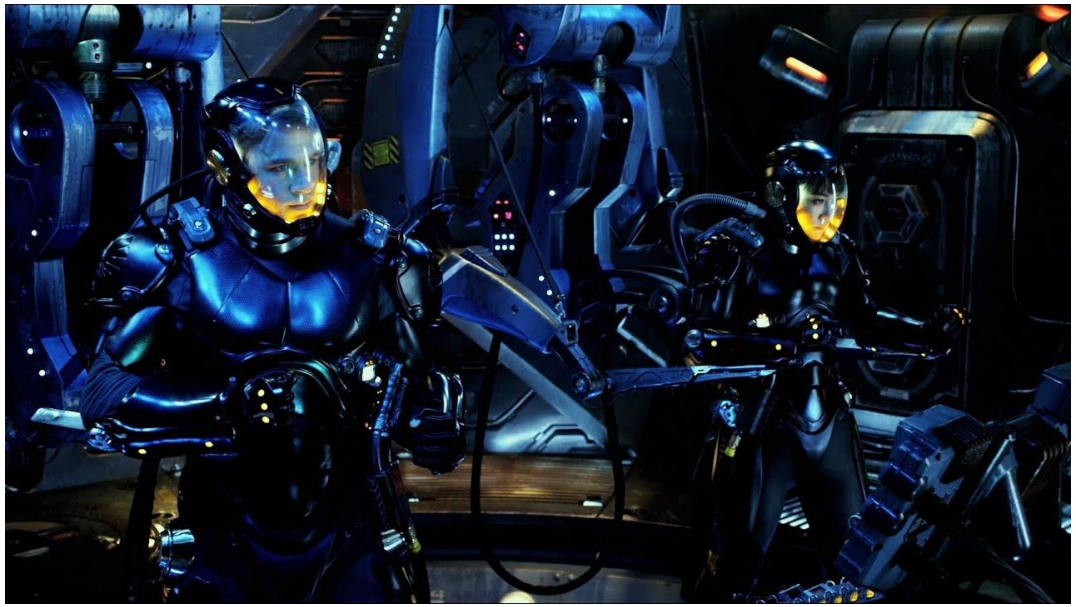
Figure 2: The Four Possible Firm Configurations

One early workflow shift: “The Drift”. Eliminate the costs of coordination with AI tools

- Smaller, modular teams assisted by AI
- Build faster on a new path… but how to manage the velocity / stability tradeoffs?
- Beginning stages of an enormous opportunity!

Figure 28 visualizes the relationships AI adoption has with these outcomes.[23]





Reconfiguration can happen with technologists taking the lead on organizational change

- Takeaways:
  - This is **not the robot apocalypse** (well, yet). Most knowledge work will change because **this is a GPT!**
  - The investments you make now in doing things differently will pay off later (J-Curve). Have patience.
  - Econometric analysis can tell you what the **causal effects** of your choices are, but correlations can be misleading.
  - **Experimentation now** to find high value configurations will build organizational credibility, enabling longer run transformational change.

Thanks! And please get in touch!

Workhelix

- We're hiring! (SWE lead, Forward-deployed engineers, and other roles)

- Interested in working with us to accelerate your AI deployments?