

Peer Review

Review of: "AI Adoption and Firm Demand for Workers and Skills: Insights from Online Job Postings"

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Review of "The Impact of AI Adoption on Firms' Demand for Workers: Evidence from Online Postings in Australia"

This paper studies the impact of AI adoption on firms' demand for workers using data from online postings in Australia. AI-adopting firms are identified using job posting data from the period between 2016 and 2019. The main finding is that firms adopting AI technologies subsequently post more vacancies in both occupations highly exposed to AI and those not exposed to AI. Interestingly, the paper also finds that occupations highly exposed to AI experience a significant increase in the skills demanded. I believe the paper makes a meaningful contribution to the emerging literature on the impact of AI adoption on labor markets.

Below, I provide comments aimed at strengthening the identification strategy and expanding the discussion on the role of other IT-related and general skills.

1. Pandemic Effects

The empirical strategy relies on data spanning two periods: T1 (2016–2019) and T2 (2020–2023), including the pandemic. This is potentially problematic because it is challenging to disentangle whether the results are driven by IT or AI adoption. The pandemic has been well-documented to increase digitalization and disproportionately benefit firms that had previously invested in IT technologies. To isolate the effect of AI adoption, the authors could restrict the sample to the years 2021 to 2023 only, allowing them to determine if the results hold when excluding the most disruptive phase of the pandemic. Additionally, they could examine the correlation between AI-exposed occupations and IT occupations using the classification from Muro et al. (2017), also applied in Soh et al. (2024). This exercise may help distinguish whether the observed effects are AI-specific or part of broader digital trends.

2. Skills Demand

The finding that AI-exposed occupations experience an increase in skill demand is intriguing. However, the paper would benefit from a more granular analysis of the specific skills that are increasingly demanded. Identifying whether these skills are AI-related, such as machine learning and programming, or non-AI-related, such as management and creativity, would provide valuable insights into whether the rise in skill demand reflects the substitution of AI-performed tasks or the emergence of complementary roles requiring new capabilities.

3. Occupation Comparisons

Comparing skill requirements across occupations based on whether the job posting originates from an AI-adopting firm or not could yield significant insights. For example, analyzing whether skill demands differ for the same occupation between AI-adopting and non-AI-adopting firms would help understand the broader implications of AI adoption. This comparison could also inform policymakers about which skills are likely to remain in high demand and which may become obsolete, supporting workforce planning and training initiatives. Furthermore, it would be valuable to explore whether the dataset captures new AI-driven occupations, such as “AI-prompt engineers,” and to discuss the implications of these emerging roles for labor markets.

4. Robustness Checks

The robustness of the results depends significantly on the classification of AI-exposed skills. The authors should check how the results change when using different thresholds for AI exposure, such as comparing occupations above the median versus those with any AI exposure index greater than zero. Additionally, they could consider alternative classifications or methodologies for defining AI exposure and compare these results with the current approach, see, for example, Eloundou et al. (2023). Such robustness checks would enhance the credibility of the findings.

References

- Eloundou, Tyna, Sam Manning, Pamela Mishkin, and Daniel Rock. (2023) "Gpts are gpts: An early look at the labor market impact potential of large language models." *arXiv preprint arXiv:2303.10130*.
- Muro, M., S. Liu, J. Whiton, and S. Kulkarni (2017). Digitalization and the American workforce. Brookings Paper.
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Declarations

Potential competing interests: No potential competing interests to declare.