Melbourne Economic Forum

Generative AI, AI Risks and the Changing Nature of Work in Australia

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FLOW-GenAI: Future of Labour, Organisation and Work with GenAI

What's next...

RMIT UNIVERSITY

Argument of the presentation

The inseparability between GenAI use – AI risk is the driver of the transformation of jobs

1) Small AI risks can lead to systemic consequences

Walkowiak, E. (2023). Task-interdependencies between Generative AI and Workers, *Economics Letters*, Vol. 231, 111315, https://doi.org/10.1016/j.econlet.2023.111315

2) An innovative approach to map AI risks within the workforce

Walkowiak, E., MacDonald, T. (2023). Generative AI and the Workforce: What Are the Risks, https://doi.org/10.2139/ssrn.4568684

Walkowiak, E., Potts, J. (2024). Generative AI , Work and Risks in Cultural and Creative Industries, https://dx.doi.org/10.2139/ssrn.4830265

Key properties of GenAI at work (Walkowiak, 2023)

- **Indistinguishability** between human-created and AI-generated outputs

  ⇨ Autonomous AI agents passing the Turing test

- Which tasks to allocate to GenAI?

  ⇨ **Matching** of workers and GenAI to task: Beckerian perspective

- What is spreading AI risks?

  ⇨ O-Ring production function

  ⇨ Tasks **interdependencies** with error risks: QJE, Kremer, 1993

- Should we favour or ban GenAI at work?

  ⇨ **Interaction** between GenAI and workers: Glaeser and Sheinkman, 2003

Inseparability AI risks-productivity (Walkowiak,2023)

- **What matters is the propensity to detect errors…**

  ⇨ Underlies the matching of workers and GenAI to tasks => productivity gains comes from the capacity to detect errors in a production process (not from the rapidity or number of tasks completed)

- **… And new forms of learning between GenAI and workers**

  ⇨ Workers-GenAI are two interdependent sides in learning: co-production of learning
  This co-production involves both productivity gains + diffusion of error risks **(inseparability argument)**

  ⇨ Introduction of the concept of a network externality in learning on a double-sided internal labour market

Innovative Measurement of AI risks

Mapping of the **Australian Labour Market** (Walkowiak and MacDonald, 2023)	Mapping for **jobs in cultural and creative industries** (Walkowiak and Potts, 2024)
⇨ Adapt Eloundou et al (2024, Science): synthetic data and administrative data First time methodology applied: - to measure AI risks exposure - in Australia using the Australian Skill Classification (Nov 2022) and LFS (June 2023) ⇨ 80% of workers allocate 20% of their time to tasks exposed to LLMs Task-exposure to 8 AI risks: - 10%: intellectual property - 11%: misinformation - 14%: privacy, cybersecurity, prof. standards, bias - 26%: harm, accountability	⇨ With ASC-December 2023, 126 occupations in Australia ⇨ Risk is multidimensional with 3 independent components - intensity of exposure, - timing of transformation, - nature of risk (business /societal risks) ⇨ Identification of 5 zones of job transformation

Job transformation zones (Walkowiak & Potts, 2024)

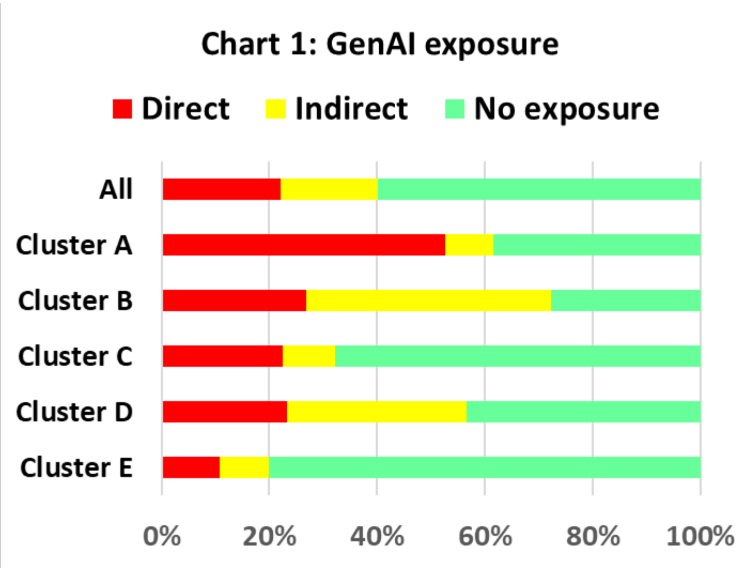
A: high-risk job transformation zone (as stack overflow in digital work)

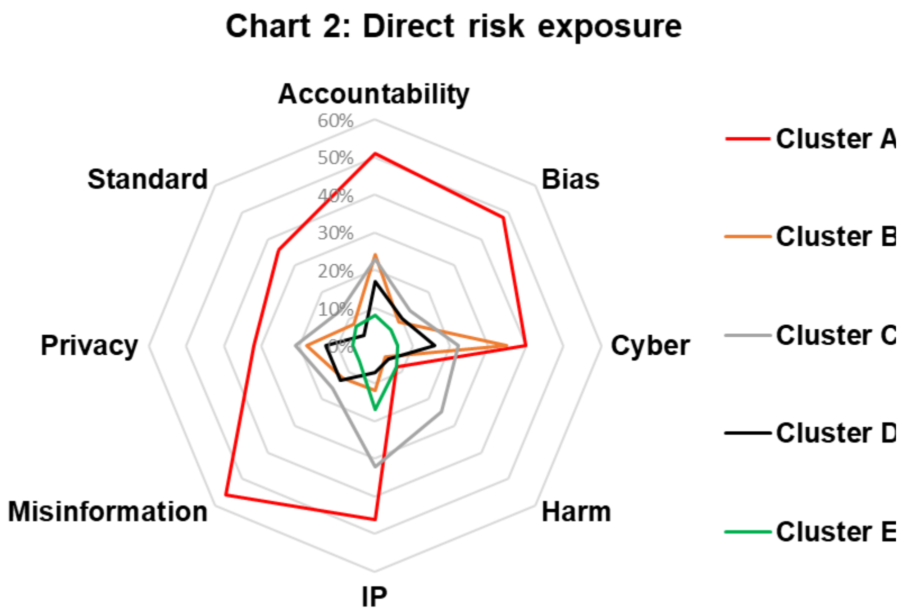
B: anticipated intense-risk job transformation zone (as pending updates in digital work)

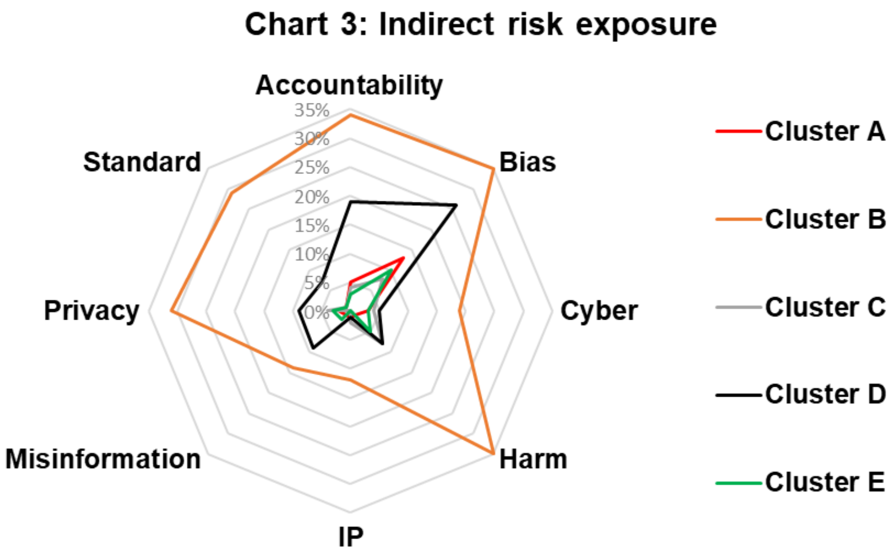
C: business-risk job transformation zone (as in need of risk management firewalls)

D: emerging societal-risk transformation zone

E: stable job zone







Note:
Cluster A includes 15 occupations, Cluster B includes 18 occupations, Cluster C includes 24 occupations Cluster D includes 19 occupations Cluster E includes 50 occupations.

Conclusion

- **The inseparability between generative AI and risk exposure is a key driver of job transformation**

- Organisational and institutional forms will condition how risks are experienced, distributed and their consequences

  ⇨ Regulatory decisions for AI mitigation risks should be coordinated with employment policies

- We want to measure these risks ex-ante (ex-post is too late)