

EMERGING WORKPLACE TECHNOLOGIES, DISABILITY AND LABOUR

STATEMENT OF RESEARCH PROJECT

Emerging workplace technologies are increasingly shaping how workers are recruited, evaluated, managed and supported with many companies increasingly adopting artificial intelligence throughout employment (Zhuang & Goggin, 2024). In conjunction with significant amounts of money flowing into such technologies, such as Singapore's \$1 billion investment in AI industry and development (Ministry of Communications and Information, 2024), there is a significant need to closely examine the use, impacts and implementations of such emerging technologies, especially given how disability employment is also a key stated aim of the Singapore government and crucial for disability inclusion.

Importantly, while these technologies are often presented as tools for productivity, efficiency and inclusion, their implications for disabled workers remain insufficiently understood. Existing scholarship has demonstrated both their potential to expand access and flexibility and their capacity to reproduce ableist assumptions, intensify surveillance, reduce opportunities for self-advocacy and create new forms of exclusion (Goggin & Newell, 2003; Crawford, 2021; Whittaker et al., 2019). More crucially, this issue gains added impetus given how the United Nations Convention on the Rights of Persons with Disability, in particular, Article 27, affirms disabled peoples' right to work and state parties' obligations to ensure equal participation in work. Singapore, is a signatory to the Convention, alongside more than 190 other nations globally.

Against this broader context, this project asks how disability can provide a critical lens for understanding the changing relationship between technology, work and labour. Rather than treating disabled workers simply as a population affected by technological change, the project places disability at the centre of analysis and examines how emerging workplace technologies are experienced by disabled people.

The project has three objectives. First, it will examine how disability and disabled workers are represented within policy, organisational and technological narratives surrounding emerging workplace technologies, including claims about efficiency and inclusion. Second, it will investigate the lived experiences of disabled workers as they encounter and negotiate these technologies across recruitment and everyday employment, paying attention to questions of agency, adaptation, and resistance. Third, it will develop a disability-centred approach towards workplace inclusion that moves beyond technological benevolence and affordances to consider how disability inclusion might be reimagined in workplaces increasingly organised through digital and AI-enabled systems.

Singapore is a particularly important site given its strong focus on AI development and adoption as well as digitalization and disability employment. More crucially, while there is significant alignment to the United Nations Convention, there is also distinct deviation in how Singapore adopts disability inclusion (Zhuang et al., 2023). We expect the Singapore case to provide key insights into how global disability rights norms are translated within national policy, organisational practice and technological development, and how these translations shape the conditions under which disabled workers are included in increasingly technologised workplaces.

The project is guided by three research questions:

RQ1: How are disability and disabled workers represented in the design, implementation and institutional embrace of emerging workplace technologies?

RQ2: How do disabled workers engage with and negotiate their relationships with emerging workplace technologies?

RQ3: How might disability-centred forms of work and workplace inclusion be conceptualised in a labour environment increasingly shaped by emerging technologies?

References

Crawford, K. (2021). *The atlas of AI power, politics, and the planetary costs of artificial intelligence*. Yale University Press.

Goggin, G., & Newell, C. (2003). *Digital disability: The social construction of disability in new media*. Rowman & Littlefield.

Ministry of Communications and Information. (2024). *Budget 2024*. Ministry of Finance Singapore

Whittaker, Meredith, Alper, M., Bennett, C. L., Hendren, S., Kaziunas, L., Mills, M., Morris, M. R., Rankin, J., Rogers, E., & Salas, M. (2019). *Disability, bias, and AI*.
<https://ainowinstitute.org/publication/disabilitybiasai-2019>

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SCOPE OF WORK FOR SELECTED PHD STUDENT

The selected PhD student will undertake an original programme of research examining the relationship between emerging workplace technologies, disability and labour, with Singapore as the primary empirical setting. Working under the guidance of the supervisory committee, the student will refine the project's conceptual framework and empirical focus while retaining its central commitment to disability-centred analysis.

The student will first conduct a comprehensive review of scholarship on critical disability studies, disability and technology, digital inclusion, AI and algorithmic decision-making, workplace surveillance, disability employment and worker rights. This will support the development of the thesis's conceptual framework and refinement of the research questions.

The empirical work will comprise three interconnected components. The student will assemble and analyse a corpus of Singapore policy, legislative and governance documents concerning AI, employment, workplace technology and disability. Using critical policy and discourse analysis, the student will examine how disability, inclusion, productivity, fairness and technological innovation are framed.

The student will also undertake field research on the development and implementation of emerging workplace technologies. This may include observations within AI or technology organisations, interviews with developers, founders and professionals, and observation at

relevant technology and industry events. The student will document how disability and accessibility are understood, incorporated or omitted during technological development and implementation. Access will be secured through attendance at industry shows and trade fairs, as well as through the committee's network (such as disabled peoples' organizations and SG Enable).

A major component of the PhD will involve qualitative interviews with disabled workers. The student will recruit participants, design accessible research materials and interview processes, conduct interviews, and analyse how workers experience, adapt to, resist or negotiate emerging workplace technologies. Particular attention will be paid to accessibility, accommodation, disclosure, surveillance, decision-making, agency and workplace inclusion.

The student will be responsible for ethics applications, project management, data management, qualitative coding and analysis, integration of findings across the three studies, and preparation of the doctoral thesis. The student will also be expected to develop publishable academic outputs and communicate findings to relevant disability, policy and industry stakeholders. The supervisory team will provide intellectual guidance, methodological support and access to relevant academic, disability-sector and technology networks.