Management Research Topic

Opportunities and Barriers for the Fourth Industrial Revolution and Disruptive Innovation and their Impact on the Post-Pandemic World of Skills, Training, and Work in Emerging Economies

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Abstract

Technological innovation is seen as an engine for long-run sustainable economic development and a driver of productivity growth. It is also widely accepted that the disruptive impacts of technology are amplified by their interaction with each other in the so-called Fourth Industrial Revolution (Industry 4.0 or i4.0). Collectively, this has important implications for employment and training, particularly the demand for specific skills and capabilities. The extent to which advanced technologies and business model innovation are more disruptive than changes that have taken place during previous periods of technological and economic change is a subject of considerable contestation. At the centre of this are wildly divergent views about the potential impact of automation and artificial intelligence on occupational and skills demand. The focus of this research is to provide insights into the potential opportunities and barriers for digital disruption associated with Industry 4.0 from the perspective of industry (technology users) and innovators (technology producers) and the implications for skills, training and work. Using appropriate qualitative and quantitative methods, the project will focus on Small-to-Medium-sized Enterprises (SMEs) in Emerging Economies which are most likely to be significantly affected by disruptive technologies.

Desired skills: Qualitative research, Quantitative research

Project Area: Business

Project level: PhD or MbR

Funding: Applicant should apply for ECUHDR or RTP Scholarship. Industry PhD Scholarship available.

Start date: From July 2023 onwards

Relevant background reading:

1. Chui, M, Manyika, J & Miremadi, M 2016, 'Where machines could replace humans—and where they can't (yet)', *McKinsey Quarterly*, pp.2-12. https://mck.co/3K5Kdf8
2. Danneels, E 2004, 'Disruptive technology reconsidered: a critique and research agenda', *Journal of Product Innovation Management*, vol.21, no.4, pp.246-58. https://doi.org/10.1111/j.0737-6782.2004.00076.x
3. Frey, C & Osborne, M 2013, *The future of employment: how susceptible are jobs to computerisation?*, University of Oxford. https://www.oxfordmartin.ox.ac.uk/downloads/academic/future-of-employment.pdf
4. Ghobakhloo, M., Iranmanesh, M., Vilkas, M., Grybauskas, A. and Amran, A. (2022), "Drivers and barriers of Industry 4.0 technology adoption among manufacturing SMEs: a systematic review and transformation roadmap", *Journal of Manufacturing Technology Management*, Vol. 33 No. 6, pp. 1029-1058. https://doi.org/10.1108/JMTM-12-2021-0505
5. Hirsch-Kreinsen, H. Digitization of industrial work: development paths and prospects. *J Labour Market Res* 49, 1–14 (2016). https://doi.org/10.1007/s12651-016-0200-6
6. Seet, P-S, Jones, J., Spoehr, J., Hordacre, A-L. 2019. Jobs are changing, and fast. Here's what the VET sector (and employers) need to do to keep up. *The Conversation.* 25 June 2019. https://theconversation.com/jobs-are-changing-and-fast-heres-what-the-vet-sector-and-employers-need-to-do-to-keep-up-118524

7. Seet, P-S, Jones, J., Spoehr, J., Hordacre, A-L. 2018. *The Fourth Industrial Revolution – Implications of Technological Disruption for Australian VET.* NCVER, Adelaide, SA. (ISBN: 978-1-925717-20-4). https://www.ncver.edu.au/research-and-statistics/publications/all-publications/the-fourth-industrial-revolution-the-implications-of-technological-disruption-for-australian-vet