

Technical change and innovation

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Project description:

Organisations across a range of industries are experiencing a wave of transformations as a result of the extending applications of digital technologies, their embedding in organisational processes (digitalisation) and the emergence of new firms established to exploit the opportunities of new technologies, such as AI (Cozzolino and Rothaermel, 2018; Filiou, 2020; The Economist, 2020; Agrawal et al., 2019; Garbuio and Lin, 2019).

The aim of this call is to invite research proposals that will explore:

- the role of digitalisation in shaping the organisation of internal knowledge, the problem-solving process and firm collaborations with external actors in co-creating and sharing value
- the process of adaptation of established organisations, the enabling factors and barriers in the process of identifying and embedding new technologies and capabilities to adapt to transformational technical change (Egers and Francis-Park, 2018).
- business models exploiting the new technologies and competitive -cooperative dynamics between new entrants and established firms

The doctoral research could explore such questions in connection to the literature on dynamic capabilities and their micro-foundations (Helfat and Peteraf, 2015), open innovation and dynamics between new entrants and established firms (Cozzolino and Rothaermel, 2018; Filiou, 2020). In terms of potential empirical contexts for the doctoral research, a particular interest is given to industries and sectors that are in high proximity to AI applications (e.g. Cockburn et al., 2019).

Indicatively, the doctoral research could employ comparative and longitudinal case study research (Eisenhardt, 1989) or mixed methods as appropriate and explained in the proposal, together with potential access to relevant organisations and data sources.

About the Supervisors:

Dr Despoina Filou's research has focused on the role of external sourcing and exploitation of knowledge in firm innovation in sectors undergoing radical technical change, by looking at both established and new technology firms in sectors such as bio-pharmaceuticals. For more information:

<http://www.open.ac.uk/people/df5743#tab2>

Professor Elizabeth Daniel's research interests that span the areas of information systems and new venture creation and entrepreneurship.

References / readings:

Agrawal, A., Gans, J., Goldfard, A. (2019) *The economics of artificial intelligence: An agenda*. National Bureau of Economic Research conference report: University of Chicago Press.

- Cockburn, I. M., Henderson, R., Stern, S., (2018). The impact of artificial intelligence on innovation. In Agrawal, et al (Eds) *The economics of artificial intelligence: An agenda*. National Bureau of Economic Research conference report: University of Chicago Press.
- Cozzolino, A. and Rothaermel, F. T. (2018) Discontinuities, competition, and cooperation: Coopetitive dynamics between incumbents and entrants. *Strategic Management Journal*, 39, 3053-3085.
- Eggers, J. P. and Francis Park, K. (2018) Incumbent adaptation to technological change: The past, present, and future of research on heterogeneous incumbent response. *Academy of Management Annals*, 12, 257-389.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Filiou, D. (2020), A new perspective on open innovation: established and new technology firms in UK bio-pharmaceuticals. *R&D Management*. doi:[10.1111/radm.12425](https://doi.org/10.1111/radm.12425)
- Garbuio, M., Lin, N., (2019) Artificial intelligence as a growth engine for health care startups: Emerging business models. *California Management Review*, 61(2), 59-83.
- Helfat, C.E. and Peteraf, M.A. (2015), Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36, 831-850.
- The Economist, (2020) Special report: The data economy. [Online] Available at: <https://www.economist.com/special-report/2020/02/20/a-deluge-of-data-is-giving-rise-to-a-new-economy> (Accessed: 1-10-2020).