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Research Seminar
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TELECOM ECOLE DE MANAGEMENT est ravie de vous accueillir

À un séminaire de recherche
avec

Jason Whalley

Newcastle Business School, Northumbria University, UK :

“Where are ICT companies from the US in the “third industrial revolution”? A patent analysis of the Internet of Things”

&

Derya Findik

Yıldırım Beyazıt University, Turkey :

“Resources on the stage: a firm level analysis of the ICT adoption in Turkey

mercredi 19 octobre 2016
De 13h00 à 14h30

Salle A303
Télécom Ecole de Management
9 rue Charles Fournier, 91011 EVRY

Merci de confirmer votre présence à : marie.carpenter@telecom-em.eu

TELECOM ECOLE DE MANAGEMENT, la Business School de l'INSTITUT TELECOM bénéficie d'un positionnement original et à forte valeur ajoutée grâce à l'intégration des disciplines du management et des Technologies de l'Information et de la Communication (TIC) dans tous ses programmes d'enseignement et de recherche.



Where are ICT companies from the US in the “third industrial revolution”? A patent analysis of the Internet of Things

Bert Sadowski, Onder Nomaler & Jason Whalley

The Internet of Things (IoT) has been heralded as the third industrial revolution, combining disruptive technological change with a radical restructuring of the traditional information and communication technology (ICT) ecosystem. This paper adopts a patent analysis approach to investigate the extent to which companies based within the United States are actively engaging with the IoT. After defining the IoT, we show that the number of IoT patents has substantially increased since 2000, though not as fast as the overall number of ICT patents. The paper identifies the leading IoT patenting firms, identifying in the process a significant presence of American firms and IBM as the holder of the largest number of ICT and IoT patents. We show that the IoT ecosystem is more complex than that suggested by Fransman (2010), with firms collaborating in a series of clusters that cut across the layers. The paper concludes by exploring the technological diversification of ICT firms, identifying those firms that are prolific generators of ICT and IoT patents. The presence of US-based firms is less than expected, with firms and research institutes based elsewhere geographically playing a key role.

Jason Whalley has more than a decade's experience as an academic. His research focuses on the telecommunications industry, examining how the structure of telecommunications markets has changed over it and the consequences that arise. His research has been published in journals such as *International Business Review*, *info* and *Telecommunications Policy*. Jason has worked with a variety of regulatory bodies and telecommunication companies, exploring how regulatory regimes develop and organisations exploit technological change. Previously Jason worked in the Department of Management Science, Strathclyde Business School.

Resources on the stage: a firm level analysis of the ICT adoption in Turkey

Derya Findik & Aysit Tansel

This study examines the impact of firm resources on ICT adoption by the Turkish business enterprises using firm level data. ICT adoption is measured at three levels: The first level is technology ownership. The second level is the presence of enterprise resource planning (ERP) and customer resource management (CRM), and the third level is the use of narrowband and broadband technologies. The effects of the three main features of each technology level, which are complementarity, specificity, and the complexity, are analyzed by using firm level data in Turkey. This study has three main conclusions. As for the complementarity, firm's resources play an important role in the adoption of technology while advancing from single technology to the multiple ones. Further, in the use of specific technologies such as ERP and CRM, firm resources generate differential effects between those technologies. Finally, the use of simple technologies does not require the same amount of firm resources as complex technologies.

Derya Findik is an assistant professor of Management Information Systems at the Yıldırım Beyazıt University, Ankara. She received her BS from Istanbul University, her MA and Ph.D from Middle East Technical University. Her main area of interest is entrepreneurship, ICT adoption, and innovation management. Her publications have appeared in journals such as *Applied Economics Letters*, *International Journal of Innovation and Technology Management*, and *İşletme, İktisat Finans* and she has joint papers which are under review in *Journal of Technology Transfer* and *Non Profit and Voluntary Sector*.