

New Economic Models of the Digital Economy

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This minitrack has been supported by the Digital Economy (DE) theme of Research Council UK (RCUK)¹. New Economic Models (NEMODE). SSN and NEMODE have come together in this minitrack to identify leading publications in the impact of digital at the level of the individual firm and economic sector.

At the centre of our research is the assumption that that business and economic models are changing because of technical change. Put simply, devices (sensors, mobiles, tags, google glasses etc) produce data on people and things: this is sometimes called datafication (Lycett), 'big data' or meta data (although definitions of these vary across disciplines) . The data is stored and accessed (often in 'the cloud') then analysed using a variety of mathematical and statistical methods and/or algorithms. This gets turned into information that informs practicing managers. This may then change any one of the three elements of the business model: value creation, value capture or the value proposition. That is it may lead to the development of new product/service offering (the value proposition) eg logistics companies offering to deliver to where you are (not just home or office). It may inform value capture ie how we make money. For example, Rolls Royce uses telemetry data on their engines to move from a selling model to a leasing model. In a similar vein photocopiers are sold on a use basis or councils pay for number of potholes fixed. The meta data may also be used to change the design, sell or make/do or after sales processes. For example, data on product usage can inform the development of an appropriate set of FAQs. The data might also inform the development of new companies through density (Normann), for example entrepreneurs see opportunities from the new data and challenge existing sectors (for example, Fitbit is using is selling employers data on their employees physical activity). These in turn are changing the sectoral eco-system and altering 'who does what and who gets what' (Jacobides et al)

From increased marginalisation to ethical and moral questions about how data is collected and used. As Lycett argues all of this is a process of sense making and may be heavily biased by what aspects of the 'big data' we seek out and how our interpretations are turned into action.

This mini-track is focused on the impact of digital technology on new business models and provides a snapshot of the type of research which the community might address. Maull, Godsiff and Mulligan take a very broad view of the impact of datafication on service processes in four service sectors, considering the potential for emerging businesses. Ryschka, Tonn, Ha and Bick take a technology (location based services) and use this to extend Bouwman's² research into electronic business models. Liebenau, Elaluf-Calderwood and Bonina focus on the finance industry. They use the concept of modularity to populate a framework which re-conceptualises the banking sector; focusing on the potential or new emerging businesses. Finally, Brandt and Neumann use hyper-game theory to consider flash crashes and high frequency trading. The essential argument of the paper is that IT has changed the game in financial trading from being sequential to simultaneous and that most importantly the players continue to play as if it is a subjective sequential game and choose strategies accordingly.

These four are simply an overview of what is emerging as a new theme of research. Other topics include how datafication impacts on issues of identity, trust and security, how 3D printing might revolutionise the economics of production, how the digital society is transforming volunteering and how digital is enabling the 'sharing economy'. For readers who want to engage in these questions we suggest you consider joining our networks at <http://www.nemode.ac.uk/> and <http://www3.imperial.ac.uk/digital-economy-lab/partnernetworks/sustainablesocietynetwork>

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<http://www.rcuk.ac.uk/research/xrcprogrammes/Digital/research/Pages/home.aspx>

² [3] Bouwman, H., H.d. Vos, and T. Haaker, Mobile Service Innovation and Business Models, Springer, 2008.