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Book review

ICT for Transport: Opportunities and Threats Edited by Nikolas Thomopoulos, Moshe Givoni, and Piet Rietveld, 2015. Cheltenham, UK: Edward Elgar Publishing Limited. £95.00 (hardback). ISBN 978 1 78347 128 7

On receiving 'ICT for Transport' I started to wonder what exactly it covers – the concept of Information and Communication Technology while seemingly intuitive, is notoriously difficult to define and delimit. The volume edited by Nikolas Thomopoulos, Moshe Givoni, and the late Piet Rietveld delivers an immersive experience in the field, demonstrating the simultaneous existence of multiple research perspectives. When those different perspectives are multiplied by the continuously changing ICT and different contexts in which the studies take place, one begins to see the challenging nature of the herding task embarked upon by the authors. At the same time, the field has probably reached a stage when the 'technological fixation' (term used by the editors) must be confronted with hard evidence to enable critical reflection. In moving towards that end, contributors to the volume engage with some of the key debates in the field. The volume leans towards an applied perspective with substantial coverage and review of real-world implementations, including experiments, projects, and existing services. What, however, distinguishes this publication is that throughout the chapters the authors clearly pin-point weaknesses in the prevailing understandings and policies, frequently biased by technological optimism and anecdotal evidence.

The 316-pages long book constitutes output of the Network on European Communications and Transport Activities Research (NECTAR), and is the sixth volume in the series. It comprises three parts and is divided into twelve chapters. In the opening introduction, the editors provide a snapshot of the trends and issues presently pertaining to the ICT and transport domain. The conceptual debate which the authors justifiably expose early in the volume caught my attention, especially given the frustrating vagueness and multiple interpretations of the umbrella terms such as 'ICT' or 'Smart City'. Another interesting point is the indirectly exposed dynamics of the domain reflected in the discussion on *anticipated introduction* of contactless payment in London's transport system, accomplished in 2014, i.e. a year ahead of the book's publication year. Probably unintentionally on the editors' side, the discrepancy seems to question whether the existing knowledge dissemination practices, often characterised by lags between the research output and publication, serve well fields evolving so dynamically as ICT in transport.

Moving inside the book, part one consists of three chapters looking at the ways in which travel behaviour can be changed influenced by ICT-based solutions. The opening chapter provides an excellent reflection on the role of travel information in transport, both from the user and system perspective. It covers major theories and provides a brief discussion of empirical findings to date. The subsequent chapter looks at desirable characteristics of travel information which could encourage the use of public transport. The part's closing contribution discusses fieldwork results regarding incentivisation through shopping vouchers and ICT-based enforcement (swipe points) as ways of changing habitual travel behaviour to reduce crowding on buses.

Part two of the volume is focused on opportunities and threats presented by specific applications of ICT in transport. The first contribution explores whether ICT improves the perception of security by individuals. This is followed by a chapter demonstrating how ICT can enable initiatives such as open geospatial data and crowdsourcing, and how these can benefit the transport sector by mapping transport infrastructure in resource-poor countries. A completely different perspective is taken in the subsequent contribution which presents simulation results evaluating how vehicular communications can impact traffic dynamics and fuel efficiency. The final chapter of the part elaborates on the usability of GPS-tracking technology to analyse the quality of transport network from the cycling point of view.

Part three of the book engages with the world of policy-making. The first contribution challenges the prevailing perception of ICT solutions as panacea for transport problems, and develops a philosophical understanding of the current discourses in the domain and adjacent fields. This is followed by a chapter discussing innovation and commercialisation mechanisms in the Intelligent Transport Systems market, with a specific focus on collaborative initiatives. The final chapter of the part reviews the existing ICT deployments in Europe.

The closing chapter of the book synthesises specific findings from the various contributions. This underlies recommendations for shaping future research and policy agenda, and also positions the topic of ICT for transport within the wider sustainability discourse. I am glad to see the emphasis on the need to demonstrate not only the environmental and social benefits of ICT for transport, but also the need for valid business models as the core determinants of economic sustainability of ICT.

Clearly the book covers a considerable range of topics in the loosely-defined field of ICT for transport. However, given this conceptual breadth, the volume would benefit from a more explicit link to, or at least a mention, of the rich debate regarding ICT as enablers of online (tele-) activities, and the consequences for individual activity-travel behaviour. In addition, whilst a number of contributions engage effectively with the existing theories, in some of the remaining ones these links are absent or limited. Given how quickly the ICT domain evolves, empirical research must relate to existing theories or propose new theoretical frameworks to contribute fully to a more unified understanding of the role of ICT in transport. Finally, research presented in the

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book makes use of a plethora of data, both primary and secondary. Yet at times the quantitative analysis is not pushed to the limits. Application of more elaborate analytical methods could provide additional insights and highlight methodological challenges presently debated in the field.

All in all, I consider this volume valuable both as a starting point in the field, and as a way of looking at it from different standpoints. In the former case, a reader will be confronted with the wideness of the field and its dynamic nature. In the latter, they will obtain a more systematic and critical discussion of the opportunities, challenges and threats present in different subdomains of ICT for transport. I enjoyed learning new perspectives in all of them in such a condensed form – time well spent.

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